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# TEXAS State Journal of Medicine

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VOLUME 52 • NUMBER 4 • AUSTIN, TEXAS

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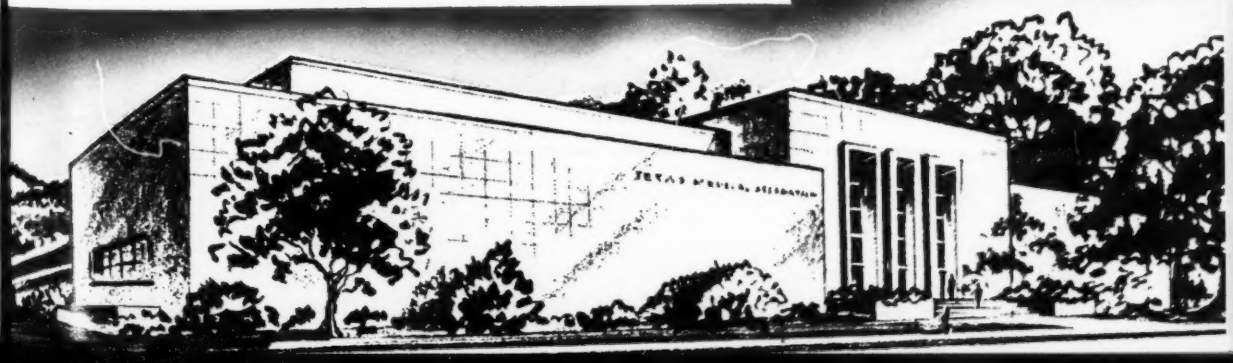

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Entered as Second Class Matter July 1, 1905, at the Post Office at Fort Worth, Texas, under act of March 3, 1879.
Address all communications to Texas Medical Association, 1801 North Lamar Blvd., Austin, Texas.

# President's Page

## A SUMMING UP

In my twelfth and final page I would like to discuss some of our accomplishments during this year.

1. The visitation program which proved so valuable last year in building a more energetic and progressive state organization has been continued. In 1954-1955, socio-economics, medical organization, and services of the Association were stressed; but in 1955-1956, scientific subjects were added. In November, 1955, the Committee on Tuberculosis made available to county societies a well qualified faculty to present complete programs. Recently the Committee on Cancer, cooperating with the Texas Division of the American Cancer Society, has offered to supply speakers to any medical group on any phase of the cancer program. During the first four months of 1956, legislation has been the topic of choice for presentation to county medical societies because of the vitally important health proposals pending before Congress.

2. The utilization of the Saturdays preceding meetings of the Executive Council for programs aimed at various sections of our Association is to be commended. The first annual public relations conference preceded the meeting in September, 1955. Representatives at the fifth conference of county medical society officials attended a symposium on legislation preceding the meeting in January, 1956. Both conferences were well attended by public relations chairmen, county medical society officials, and members of the Woman's Auxiliary.

3. Two new committees have been appointed this year the work and influence of which will be of vast importance to our Association —the Council on Industrial Health and the Committee on School-Physician Relationships. A previous page has been devoted to industrial health, a problem of ever increasing importance in the rapid industrialization of Texas. Last month the first statewide conference on physicians and schools was held at our headquarters building in Austin with more than 120 present. A better school health program should be effected from such meetings, and greater understanding and cooperation should result among the schools and various education agencies, public health departments, and members of our Association.

4. A fine new service for members of the Association has been initiated: a group disability insurance program under sponsorship and control of the Association which permits more universal coverage for Texas physicians than was possible through already existing channels. This true group insurance arrangement, authorized by the Board of Trustees following studies and recommendations by the Council on Medical Economics, went into operation November 1, 1955, and claims already are being paid.

5. Remarkable progress has been made by the Texas Commission on Patient Care, and our appointees to this commission have been instrumental in this work. The commission has employed an executive secretary, and $20,000 has been budgeted for use in 1956. Texas hospitals have contributed $10,000 toward this budget. The Board of Trustees of the Medical Association has agreed to pay the salary of the executive secretary, provide office space in our headquarters, and furnish secretarial help during 1956. The commission is sponsoring a program to attract promising students into the health fields. A health careers guide book, underwritten by Blue Cross and Blue Shield, is being prepared for distribution to vocational guidance counselors and students.

6. The program to acquaint the membership with work being done by our more than 40 boards, councils, and committees is meeting with success. A new page, "On Call," was instituted in the *Journal* last June. Each month since then a committee, because of its newness or the immediate import to Association members of subjects involved, has been presented in some detail. Another feature of the *Journal,* also designed to promote better understanding among the doctors, is a signed editorial written by a physician.

7. The annual session this year should be again a grand climax to a year of worth-while activities. The new pattern of integrated programs with the specialty societies is mutually satisfactory and beneficial. The sharing of speaker talent and the joint underwriting of speaker expenses are responsible for securing 24 outstanding educators from all sections of the country.

It has been a privilege and an honor to serve as your President. Your cooperation and understanding together with the esprit de corps of our loyal staff have made this year eminently successful. I extend every good wish to you and to the official family of our organization for 1956-1957.

J. Layton Cochran

## FUNDS FOR MEDICAL EDUCATION

One of the unsolved problems facing our nation and the medical profession today will be underscored in the observance April 22-28 of Medical Education Week. Although this week is designed primarily to emphasize the progress and contributions of medical education, it will call attention to the urgent need of medical schools for funds to cover their ever increasing expenses for additional facilities, instructors, and research.

In an effort to relieve this pressure, the American Medical Education Foundation was organized by the American Medical Association in 1951 to solicit the medical profession for financial assistance which would be added to funds gathered from business and industry by the National Fund for Medical Education, an organization incorporated by Congress that same year and given the prestige of a charter similar to that enjoyed by the Red Cross.

Since their establishment, these two organizations have collected and funneled into 81 school treasuries $9,589,490.03. Add to this sum an approximately similar amount donated directly to medical schools by alumni, and the total is still only a small percentage of the over-all total so important to medical education today.

Probably the most significant specific events which point out clearly the plight of our medical schools in their attempt to keep abreast of the rapid progress of American medicine were the recent announcements of two huge grants to the nation's medical schools by the Commonwealth Fund and the Ford Foundation. Ten university medical schools received grants totaling $7,150,000 from the Commonwealth Fund. The Ford Foundation will grant $90,000,000 to privately supported medical schools as endowment to help them strengthen their instruction, although the exact allocation to the individual schools has not yet been determined.

These two great philanthropic organizations have recognized that unless the increasing financial needs of medical education are met, the current high standards of medical training in the United States are in jeopardy. These grants will aid in meeting some of the requirements that have existed during recent years, but they will not close the gap that has been represented as approximately $10,000,000 annually. These grants are in the form of endowments. At 4 per cent interest, this will return to the schools about $4,000,000 per year, but there is a continuing need for more. This need must be met. Although there has been a growing participation by the medical profession, business, and industry in both the American Medical Education Founda-

tion and the National Fund for Medical Education, it is not enough. Last year, these two organizations made grants totaling $2,657,433.90 to the nation's medical schools. This is the largest annual award thus far of which 48 per cent was contributed by business and industry and the remainder by physicians. Each of the 75 four-year schools received a lump sum of $15,000 plus $30 per undergraduate student. Each of the 6 two-year schools got $7,500 plus $30 per student. In addition to these grants were the gifts of individual doctors to designated schools.

According to official reports of the National Fund for Medical Education, 788 Texas doctors during 1955 contributed $20,434.75 to AMEF, while 706 alumni contributed $21,410.34 to individual medical schools. At the same time, AMEF and NFME jointly awarded Baylor University College of Medicine $34,156.88, University of Texas School of Medicine $37,395.36, and University of Texas Southwestern Medical School $27,941.50 or a total of $99,493.74 to Texas schools.

The fact that the financial position of our medical schools is becoming more and more dangerous has been brought into sharp focus by the State Committee for the American Medical Education Foundation of the Texas Medical Association under the chairmanship of Dr. J. R. Donaldson, Pampa. The current campaign for AMEF funds is under the direction of this committee, whose members are calling to the attention of Texas physicians the importance of preventing federal aid to our medical schools. Dr. F. J. L. Blasingame emphasized this danger in his President's Page in the Texas State Journal of Medicine, September, 1954, with the following statement: "If funds are not forthcoming to help meet needed expenses [for medical education], federal funds may be sought for support. Thus, another item will be added to the federal tax load, coupled with the possibility of government controls and regulation." At a recent meeting of Dr. Donaldson's committee, he pointed out that there is at present before Congress a bill calling for federal aid to medical schools. It was also brought out that continual pressure being brought to bear on Congress by medical schools in need of funds could cause the passage of some bill of this type. The feeling of the committee is that if federal aid is to be averted, all states must carry an increased financial load.

Suggestions have come from both the national and local levels that some type of designated dues raise for doctors from county to national association may be necessary more nearly to fill the gap between the present funds being expended by medical schools and the monetary income many feel absolutely necessary to meet increasing educational demands. Recommended also are efforts by physicians to direct the attention of businessmen of their acquaintance to the problem.

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State Journal of Medicine

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

VOLUME 52 • NUMBER 4 • APRIL, 1956

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Subscriptions: $3 per year; $4 foreign.
Single copy: 50 cents.

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# American Medicine—A Bargain

It is high time that American Medicine gets off the defensive and begins to tell the American public what a "good buy" it is getting for its medical dollar. Almost all wage earners put in less work today than ever before for the same amount of medical care, the Bureau of Medical Economic Research of the American Medical Association points out.* A worker who could pay for 11 calls to a physician's office out of a week's wages in 1937 could obtain the same service for only 51 per cent of his week's wages in 1954. Although doctors' fees have risen 160 per cent since 1940, the consumer price index has increased 192 per cent in the same period, meaning that other family expenses have risen faster than fees for physicians' care.

Driving this point home to our patients is the job of national and state organized medicine as well as it is the job of the individual practitioner. Far too frequently we are put in the position of being told to "offer something better" as a result of our opposition to some proposal, usually put forth by one of the advocates of "womb to the tomb" care for all. If the American people were made fully aware, and kept fully aware, of their good fortune in having the American system of private medicine to care for their medical and surgical problems, we would have far fewer occasions when we are told to "offer something better." Certainly, there are some problems still to be worked out, but improvement is being made in American medical care daily—so much so that we need make no apologies to anyone regarding our system of medical service.

*_The Story in Charts of the Economic Position of Medical Care, 1929-1953, Bull. 99A, Bureau of Medical Economic Research, A.M.A., Chicago, 1955._

The public should be constantly reminded of the remarkable reduction in death and suffering as a result of the activities of private medicine in this country. Certainly medical science has done its share in lengthening the average life span in the United States by 20 years in the past half century. Each time a prescription is written, the patient should be reminded that only a few years ago we had no such effective weapons with which to fight pneumonia, "strep" throat, and scarlet fever, with their well remembered complications of empyema, rheumatic fever, nephritis—and not infrequently death. The six or eight dollars for an antibiotic is far cheaper than the cost of a funeral or the slow tedious recovery from a complication.

It is well known, and frequently mentioned by the socializers, that the cost of hospital care has increased—and so it has, though a week in the hospital in 1954 cost no greater proportion of the worker's weekly wages than it did in 1937, the AMA reports. What is not mentioned by the socializers, and it is not well known by the general public, is the fact that, due to improved techniques and medications, the time of hospitalization per illness is so greatly reduced that the total cost of hospital care per illness is actually less than it formerly was.

It is my opinion that time is running out for the private practice of medicine unless bolder moves are made by state and national medical associations to make the American public aware of the good value that it is getting for its medical dollar. The private practitioner must arouse from his lethargy regarding political matters which concern his very existence. State medical associations must become more enthusiastic and more effective in telling the story of American Medicine to the people. And above all, the American Medical Association must do everything within its power to keep the wonderful story of American Medicine constantly before the American people. If these steps are taken aggressively, there is little doubt that American Medicine will no longer have to defend itself constantly from the assaults of the socializers, for the public then would be firmly on our side.

—RICHARD E. LEIGH, JR., Houston.

## Exhibit Program Opens April 22 in Galveston

For the first time at a Texas Medical Association annual session (in recent years, at least) the scientific exhibits will include a series of displays on a single problem by physicians in various fields of medical practice. The problem —tuberculosis. The exhibitors—Dr. Quellin Box, Department of Pediatrics of the University of Texas Medical Branch, Galveston; Dr. H. Frank Carman, Department of Internal Medicine of the University of Texas Southwestern Medical School, Dallas; Dr. P. O. Jones and Dr. D. E. Jenkins, Baylor University College of Medicine, Houston; McKnight State Tuberculosis Hospital, Sanatorium; Texas Tuberculosis Association, National Tuberculosis Association, and American Trudeau Society; and Dr. Samuel Topperman, Dr. Lewis Pummer, and Dr. Joseph Selman, East Texas Tuberculosis Hospital, Tyler.

Through the cooperative efforts of these six exhibitors, the project was developed and coordinated by the Committee on Medical Education of the Texas Tuberculosis Association, with Dr. J. Edward Johnson of Austin as chairman. It merits the attention of all doctors attending the convention and might well be repeated at subsequent meetings featuring different medical problems of general interest.

Equally deserving of the doctors' time in Galveston, in addition to this series and 3 other scientific exhibits in numerous fields of practice, are 71 technical displays, plus 19 medical motion pictures—staged in collaboration with Ralph P. Creer, secretary of the Committee on Medical Motion Pictures of the American Medical Association, Chicago. From Sunday

April 22, through Wednesday noon, April 25, the exhibits will be open; and films will be presented Monday, Tuesday, and Wednesday mornings at 10 o'clock, with a special film program Sunday evening designed to interest physicians and their wives alike.

Doctors will not want to miss being in Galveston April 21-25 for these additional features of the convention: 24 out-of-state guest speakers and 15 special speakers, 19 refresher courses, 9 scientific section meetings, 15 related specialty society sessions, and general assemblies, as well as entertainment, highlighted by the President's party, and sports. Not to be overlooked, of course, are meetings of the House of Delegates and activities of the Woman's Auxiliary.

## Students Encouraged To Enter Health Fields

> Beyond the bright searchlight of science,
> Out of sight of the windows of Sense,
> Old Riddles still bid us defiance,
> Old questions of Why and Whence.
>
> —William Cecil Dampier Whetham, "The Recent Development of Physical Science," Chapter 10.

Since these words were written in 1904, scientific progress then unthought of has been made, yet old riddles still are a challenge. Some questions of Why and Whence may be solved today; others must be left for the young scientists now entering the professions.

If present trends continue, however, there will be a serious shortage of trained workers in the health fields in the future. Today, there are only 21,000 registered medical technologists, and 50,000 will be needed by 1960; these figures show the need in only one profession, but similar shortages are indicated elsewhere. A serious loss of intellectual resources is shown in a special education report by the College Entrance Examination Board, which reveals that 200,000 of the nation's most able high school graduates of 1956 do not plan to enter college.

The responsibility of encouraging boys and girls to enter health and other science professions, whether involving a college education or other special training, falls upon men and women associated with these fields, for they alone can give youth a true picture of the opportunities available. Recognizing that good teachers are an influence in the student's choice of a career, the National Science Teachers Association, in cooperation with the National Cancer Institute, has begun the Science Teacher Achievement Recognition program to encourage the reporting and dissemination of outstanding science teaching ideas.

The health professions offer a wide variety of jobs, all of which are necessary to the overall health program. The Texas Commission on Patient Care is one of several groups that are initiating various long and short-range programs designed to acquaint students with the health profession.

Perhaps the most important current facet of the Commission's program is the publication and distribution of a health careers guidebook, "Deep in the Health of Texas," which is designed to aid vocational counselors—and doctors are often called upon in this capacity—in pointing out the needs of the paramedical groups and giving complete information about health careers. The cost of this booklet is being underwritten by the Group Hospital Service, Inc., and the Group Medical and Surgical Service.

The first copies of the brochure will be distributed at the Texas Medical Association's annual session in Galveston. Others will go to key people in schools, hospitals, and professional groups.

The booklet contains data on the contribution each profession makes to the health field, its varied opportunities, basic personal and educational requirements, and higher educational requirements. Also, a list of Texas schools and training programs for all listed professions is included.

To promote interest in nursing, the Woman's Auxiliary has worked closely during the past year with the high school chapters of the Texas Association of Future Nurses, and will continue to work with these groups on a state and local level. About 700 members attended the second annual convention which was held in Dallas late in March. The Woman's Auxiliary also is particularly interested in science education and science fairs, and will make them a special project during 1956-1957. There is a possibility that winning health exhibits might be displayed in the Dallas Health Museum.

Collaborating with the auxiliary in its work with science fairs is the Texas Academy of Science, which has activated the Science Education Board to coordinate science education activities in the state. This includes incentive programs such as science fairs, sponsorship of the Junior Academy of Science, and work with science teachers. The Texas Medical Association's Executive Council has approved these activities, especially as they relate to science fairs.

The American Medical Association has shown a marked interest in science fairs, and will present special citations to the two high school students with the best health-related exhibits at the Seventh National Science Fair in Oklahoma City May 10-12. The winners may show their work in the scientific exhibit at the annual meeting of the AMA in Chicago June 11-15. Seven regional Texas science fairs will be represented in Oklahoma City.

Thus the work to introduce health careers to students is well under way, and will be carried on by these and other organizations. The doctor, too, can help; he is in a unique position to guide young people in the choice of a career in health. Many materials are available to him, and to those who ask his advice. A national organization from which career booklets may be obtained is Science Service, 1719 North Street, N. W., Washington, D. C. Sources of information are plentiful, and the physician has only to make use of them.

# Doctor Distribution Not Major Problem

Although the distribution of physicians in Texas is not as desirable as it might be, there is little basis for the common belief that Texas has a shortage of doctors. The Committee on Rural Health and Doctor Distribution of the Texas Medical Association has just released results of the recently completed doctor distribution survey, which indicate a population-physician ratio of 1,226 Texans for every active private practitioner. The national ratio is lower (958 persons to each active private practitioner), but neither the public nor doctors consider Texas lacking in good medical care, the survey shows.

Modern scientific advancements and other progress have made it possible for today's doctor to provide better care for more people than ever before.

Still, every effort is being made by the Association to help distribute better the doctors in Texas. Survey teams of physicians are visiting communities expressing a need for and requesting a physician. The Physicians Placement Service continues to assist communities in need of a doctor as well as doctors seeking locations to practice in Texas. In addition, recently a list of especially needy communities has been given to the Sears-Roebuck Foundation, which grants loans to doctors for establishing a practice, with the suggestion that better service might be provided for the public if the needs of the community are taken into consideration as well as the financial requirements of the applicants.

A complete report of the doctor distribution survey is given in the Organization Section of this *Journal,* and it warrants the attention of all doctors. The public relations value of the survey is unlimited, and every doctor should be equipped with an explanation of the distribution situation in Texas.

ORIGINAL ARTICLES

# Diagnosis and Treatment of Acute Renal Failure

**PAUL E. TESCHAN, MAJOR, MC;**
**ARTHUR D. MASON, JR., FIRST LT., MC;**
and
**RICHARD F. BARQUIST, CAPT., MC**

*Fort Sam Houston, Texas*

ACUTE renal failure is the common clinical denominator of a wide variety of physiologic insults.[5, 9] It is fortunate that the syndrome is relatively rare, for it is characterized by a high fatality rate. Experience has demonstrated now that the artificial kidney, although it is no panacea, does offer patients with acute renal failure an increased chance for survival.[2, 7] The care of acute renal failure is best undertaken by a team whose members have had experience with its rapidly developing and potentially lethal physiologic alterations. In addition to experience and the necessary equipment, the team must have extensive nursing and laboratory support. Such a team has existed for several years in the Renal Division of the Surgical Research Unit, Brooke Army Medical Center.

MAJOR PAUL E. TESCHAN, *MC, and his co-authors are from the Surgical Research Unit of Brooke Army Medical Center and the Medical Service of Brooke Army Hospital.*

This article serves (1) as a summary of the basic concepts necessary for the clinical evaluation and care of patients with acute renal failure and (2) as an announcement that these facilities at the Brooke Army Medical Center are available to physicians of the Southwest who have no ready access to an artificial kidney for civilian patients with acute renal failure.

## ETIOLOGY, PATHOLOGY, AND PATHOGENESIS

The common apparent causes of acute renal failure are diverse. They fall into three principal groups: (1) poisoning by nephrotoxic materials, such as the mercuric ion; (2) episodes of hypotension, especially of traumatic shock; and (3) allergic reactions of an anaphylactoid nature. The latter two groups are often associated with circulating pigments, as in cases of hemoglobinuric nephrosis subsequent to hemolytic transfusion reactions.

The gross pathologic picture of acute renal failure is distinctive. The kidneys are moderately enlarged and have thick, pale, yellowish cortices which bulge slightly when the capsule is cut. The renal medullae are dark red and the rays are somewhat accentuated. Microscopic examination reveals necrosis of the cells of the proximal and distal convoluted tubules, casts in the lower nephron, minimal tubular dilatation, and interstitial edema with some cellular infiltration. Detailed dissections by Oliver[5, 6] demonstrated two lesions of the nephron in acute renal failure. The first of these, necrosis of the tubular epithelium, was severe and disseminated in lesions secondary to nephrotoxic drugs but patchy and much less severe in acute renal failure of any other cause. The second lesion, perforation of the tubular basement membrane, occurred in association with hypotension or allergic reaction but was rare in those cases due to nephrotoxins without an associated history of hypotension.

The mechanism of the oliguria of acute renal failure is unknown. Among the postulated mechanisms are (1) tubular obstruction by casts, (2) nonspecific back diffusion of virtually all of the glomerular filtrate because of tubular epithelial damage, (3) limitation of effective renal blood flow and glomerular filtration by a variety of possible mechanisms, and (4) combinations of these. At the present time, all theories of the mechanism are open to some criticism and none is adequately proved by observational data.

Whatever its pathogenetic mechanism, its etiology, or its pathology, acute renal failure represents a clinical syndrome which is recognizable. Its manifestations vary quantitatively to a large extent, and these will be discussed later.

## DIAGNOSIS

When the following criteria are met, it is reasonable to make a diagnosis of acute renal failure:

1. The urinary output for two successive 24 hour periods is less than 500 cc. for each period.
2. The patient is not hypotensive, that is, blood pressure is normal or elevated and stable without apparent need for further resuscitation.
3. The urinary specific gravity is less than 1.030 and the patient appears adequately hydrated clinically.
4. Initial plasma electrolyte concentrations (particularly of sodium) are not grossly abnormal.
5. No obstruction of the lower genitourinary tract is present.
6. There is no reasonable possibility that the oliguria is due to late chronic renal disease in a terminal stage.

It should be emphasized that patients with acute renal failure are not usually anuric; instead, they are oliguric with urinary volumes of 100 to 400 cc. per day. In the presence of complete anuria, occlusive arterial lesions, severe hypotension, urinary tract obstruction, or acute glomerulonephritis should be suspected. Despite clinical evaluation and measurement of urinary specific gravity, if dehydration is still suspected and the patient has a normal or elevated blood pressure, he may be water loaded within one hour by an infusion of 1,000 cc. of 5 per cent glucose in water. The urinary output should be measured by catheter at 30 minute intervals during loading and for a three hour period thereafter. If the hourly output does not approach 30 cc. per hour in a normotensive patient so tested, it may be reasonably certain that dehydration is not a cause of oliguria. This test should not be repeated, however, because of the grave danger attendant upon overhydration of patients with acute renal failure.

## CLINICAL FINDINGS

Acute renal failure is a clinical syndrome characterized by a period of oliguria followed in all surviving patients by a period of diuresis and associated with a varying degree of plasma chemical distortion.

When acute renal failure with oliguria exists, the kidneys make no known further contribution to the clinical problem. At this stage, the syndrome may be considered a metabolic disease in which the patient is subjected to the stresses of failure of excretory and regulatory functions which are usually maintained by the kidney.[8, 10] The clinical problem lies in protecting the patient from these stresses long enough to allow recovery of adequate renal function. At present, no known measures will hasten restoration of renal function.

The known biochemical stresses on patients in this situation arise because of (1) liberation of metabolic end-products of protein catabolism and their accumulation in the extracellular fluid, (2) absence of renal acid-base control, and (3) failure of renal control of water balance. Biochemically, these stresses express themselves as azotemia, hyperkalemia, hyperphosphatemia with hypocalcemia, metabolic acidosis, and susceptibility to overhydration. Clinically, they express themselves in the multitude of manifestations grouped under the term uremia, including an even less well defined failure of wound healing and interference with defense against infection.

The quantitative aspects of acute renal failure vary considerably. When associated with trauma, its clinical and biochemical course is greatly accelerated as contrasted with nontraumatic cases. Such patients show a much more rapid rate of deterioration, presumably because of the metabolic reaction to the stress that they have experienced previously.[10] Although nontraumatic acute renal failure is often manageable by means of adequate conservative therapy alone, it is practically impossible to manage post-traumatic acute renal failure in a similar manner for more than a few days. The mortality in post-traumatic acute renal failure is accordingly greater than in its more benign counterpart.[7, 10]

Acute renal failure is rarely an uncomplicated disease. Among the common complications are (1) hyperkalemia with myocardial potassium intoxication, (2) pulmonary edema, (3) aspiration pneumonia due to uremic depression of consciousness associated with nausea and vomiting, (4) wound dehiscence, (5) severe anemia, (6) hypocalcemic tetany and convulsions, (7) severe metabolic acidosis, and (8) severe malnutrition. It is because of these complications that the mortality rate of acute renal failure remains high.

## MANAGEMENT

Initial management of acute renal failure with oliguria is directed toward the fundamental sources of known stress upon the patient.

1. *Volume Control.*—In the absence of renal control of total body fluid volume, the amount of fluid received by the patient is critical and conditions of therapy. In post-traumatic acute renal failure, conventional allowances of 800 to 1,000 ml. per day for "insensible fluid loss" may result in peripheral edema.[10] In most severely oliguric patients, experience demonstrates that measured intake minus measured output usually should be set at less than 500 every 24 hours. Obvious technical difficulties are presented in administering a continuous intravenous

trose infusion of this small volume, and constant supervision is required.

In certain patients, this recommended level of fluid restriction may lead to greatly elevated levels of plasma sodium, presumably because of the water loss through the skin and lungs in excess of the sodium lost by the same routes. When this tendency appears, a middle course is chosen and cautious increases in fluid allowance are made in order to avoid severe extracellular fluid hypertonicity. Through the entire course, the body weight is measured daily and should be allowed to decrease at the rate of .5 kg. per day; maintenance of body weight is an almost certain indication that, with each passing day, the patient's total body water is expanding and the risk of pulmonary edema is increasing.[9, 10]

In the presence of nausea and vomiting or of diarrhea, volume losses should be carefully measured and then replaced with solutions suitable for electrolyte repair. These replacement solutions should never contain potassium.

2. *Suppression of Protein Catabolism.*—A maximal, protein-free caloric intake should be provided for these patients to suppress endogenous protein catabolism. The route of intake is dictated by the patient's tolerance of oral feeding. In the presence of nausea and vomiting, all oral intake should be discontinued. The volume in which the caloric intake is supplied is dictated by the patient's allowable fluid intake as discussed previously. This restriction makes the use of concentrated parenteral solutions necessary when the oral route fails. Generally, hypertonic solutions cannot be infused into peripheral veins over long periods of time because of inevitable thromboses. In such patients, the route of choice is through a percutaneous femoral catheter which permits direct infusion into the vena cava. Infusions should be given very slowly and by continuous drip. The basic solution recommended is 20 per cent glucose in water.

Testosterone propionate in doses of 50 to 100 mg. per 24 hours may be given intramuscularly for further suppression of endogenous protein catabolism.

3. *Control of Acidosis.*—Metabolic acidosis exists in almost all patients with acute renal failure. In the absence of pulmonary complications, it tends to be well compensated. The abrupt progression of acidosis often heralds or accompanies potassium intoxication. The management of acidosis will be discussed in the sections dealing with potassium intoxication. It should be clearly understood, however, that these patients should not be treated for acidosis on the basis of diminished plasma bicarbonate alone. In this disease, only in the presence of clinical acidosis is an increase in a patient's sodium load justified for purposes of correcting acid-base balance. Exceptions to this rule exist in the presence of nausea and vomiting or of diarrhea, in that sodium loading to offset acidosis then becomes possible without increasing the total body sodium. The sodium loss by such routes should be accurately measured whenever possible. In the absence of such measurements as a basis for calculation, it is permissible to assume that the fluid lost contains electrolytes at half of their respective plasma concentrations.

## MANAGEMENT OF COMPLICATIONS

1. *Hyperkalemia with Potassium Intoxication.*—Potassium intoxication is the greatest threat to life during the first 7 to 10 days of uncomplicated acute renal failure.[3, 7, 9, 10] Its evaluation is dependent upon the correlation of chemical and electrocardiographic findings. At any one moment, the electrocardiogram is the best index of severity of potassium intoxication. On the other hand, the rate of accumulation of potassium in plasma on the basis of flame photometric determinations is often a more exact guide for prognosis. As a clinical rule-of-thumb, a patient is in imminent danger of severe potassium intoxication when early electrocardiographic changes indicate potassium effect on the myocardium accompanied by a plasma potassium concentration of 6.5 milliequivalents per liter or more. Patients in whom plasma potassium accumulation and electrocardiographic effect have progressed slowly may show abrupt increases in both associated with a sudden fall in plasma bicarbonate. This is particularly true in patients who are severely azotemic. The first clinical observation of such a change is often hyperpnea associated with a moderate fall of blood pressure. Myocardial potassium intoxication is an acute medical emergency and must be treated accordingly with immediate, appropriate suppressive therapy.

Suppressive therapy is started immediately by an intravenous infusion of up to 10 Gm. of 10 per cent calcium gluconate (100 cc.), under electrocardiographic control, especially when there is digitalization of the patient. Following this initial infusion, 5 to 10 Gm. of calcium gluconate should be added to the daily intravenous infusion. If electrocardiographic improvement is transient, as is usually the case, regular insulin should be added to the 20 per cent glucose infusion in the amount of 1 unit per 3 to 5 Gm. of glucose. Infusion of 100 to 200 ml. of 5 per cent sodium chloride may aid in control, especially in patients who are initially hyponatremic. The slow infusion of hypertonic sodium bicarbonate from the ampule (3.75 Gm. per 50 cc.) may be of aid to patients with associated severe acidosis. A maintenance solution combining bicarbonate, calcium, and glucose-insulin has been described recently. This solution is useful in maintaining patients for relatively

protracted periods (for example, during transportation). Sodium cation exchange resins administered orally or rectally are sometimes helpful in controlling plasma potassium levels, but we have not found them to be of any consistent value.

Patients with acute renal failure, oliguria, and progressively rising plasma potassium concentrations cannot be maintained indefinitely by conservative therapy. With the recognition of such a state, it is therefore imperative that effective measures for extrarenal excretion of potassium be instituted at once. Patients should be moved promptly to an installation equipped with an artificial kidney, which accomplishes the desired biochemical result most efficiently.[2,7]

It is obviously preferable that patients with acute renal failure be transferred to a center where there is an artificial kidney prior to the development of potassium intoxication with its attendant dangers. This usually implies referral within the first three to four days of their disease. In post-traumatic cases, even this interval may be too long. As soon as acute renal failure is recognized, therefore, such cases should be moved whenever possible to an installation where dialysis is available.[7, 10]

2. *Pulmonary Complications.*—The patient who is at once nauseated and semistuporous is in constant danger of aspiration pneumonia. For this reason, the Stryker frame is recommended whenever stupor becomes severe. In the absence of such a frame, the patient should be turned at least four to six times daily for a period of several hours. A nasogastric tube should be inserted in all such patients and continuous suction should be instituted.

Where danger of airway obstruction exists, a tracheotomy should be performed without delay. Because of the relative underhydration necessary in these patients, problems of tracheotomy maintenance are somewhat enhanced. Maintenance of moisture content in the inhaled air by aerosol administration and instillations of dilute proteolytic enzymes directly into the tracheotomy have proved to be effective in preventing airway crusting and subsequent obstruction.

3. *Hypocalcemia with Tetany.*—Hyperphosphatemia and hypocalcemia are characteristic findings in patients suffering from acute renal failure. In patients who can tolerate an oral intake, the administration of aluminum gels will help control hyperphosphatemia and indirectly aid in the control of hypocalcemia. In addition, it is necessary to administer calcium in intravenous fluids, usually as the gluconate. The dose should be given by continuous drip, along with the remainder of intravenous therapy. It must be adjusted to the needs of the individual patient, varying from 1 to 10 Gm. of calcium gluconate every 24 hours. In the presence of clinical tetany or of convulsions thought to be on a hypocalcemic basis, the therapeutic method of choice is direct intravenous administration of 10 per cent calcium gluconate.

4. *Drugs and Antibiotics.*—The use of antibiotics for prophylactic purposes is entirely justified in patients having acute renal failure, since these patients are highly susceptible to infection. Dosage schedules are empirical, as the failure of renal excretion of antibiotics is thought to permit high plasma concentrations with relatively small doses of antibiotics. Oral and intravenous antibiotic dosage schedules currently used for prophylactic purposes are similar to those used in the routine care of patients who do not have acute renal failure. In the presence of infection, and particularly in the presence of septicemia but with the exception of streptomycin, these doses may be multiplied several times. As little as 1 Gm. of streptomycin per day has produced irreversible damage to the eighth cranial nerve in these patients; empirically this drug is avoided or given in the amount of 1 Gm. twice or three times per week. Sedatives, digitalis, antiemetic preparations, and other drugs the excretion of which is predominantly via the kidney should be used with care. It should be realized that excretory failure will permit greater duration of action and more pronounced cumulative effects than would be expected in patients with normal renal function. In an individual patient, therapy involves careful titration of dosage and effect. Critical judgment is required in the administration of any drug or antibiotic having potentially toxic effects.

5. *Anemia.*—All patients with acute renal failure become anemic. No attempt should be made fully to correct such anemia by transfusion, for the correction is almost certain to overexpand the patient's intravascular volume to a dangerous degree. The judicious use of packed cell infusion is desirable in maintaining a hematocrit of 25 to 30 per 100 cc. of blood and a hemoglobin of 9 to 10 Gm. per 100 cc. Such infusions should be given slowly, with careful observation for evidence of pulmonary edema.

6. *Surgical Care.*—In view of the high wound dehiscence rate,[10] it is advisable that the surgeon who has reason to believe his patient may develop acute renal failure (in cases involving surgery of traumatic injury, known transfusion reaction on the operating table) close all incisions with stainless steel wire either as figure 8 musculofascial closure or as through-and-through suture.

Because of the frequent failure of wound healing with the constant danger of wound dehiscence, the requirements of the injured area, and the cardiovascular and biochemical changes, patients with acute renal failure of surgical or post-traumatic origin are best handled by a medical-surgical team.[7] Occasionally rapid accumulation of potassium and nitrogen in the

plasma has been slowed by the amputation of an infected extremity or by a well performed interval debridement.[1] However, interval surgical procedures are not well tolerated by uremic patients and tend to accelerate the development of potassium intoxication.

## ARTIFICIAL KIDNEY

The artificial kidney is viewed as an adjunct to the foregoing medical-surgical regimen. The indications for its use are twofold: (1) when potassium intoxication becomes severe and progressive in spite of suppressive therapy, particularly when the requirements of such suppressive therapy exceed the fluid volume restriction for any 24 hours, and (2) when uremic nausea and stupor combine to endanger the patient or when signs of bloody crusting and small amounts of melena indicate that the severe hemorrhagic diathesis characteristic of severe uremia is about to occur. It is believed that the risk of dialysis is far less than the risk to the patient of continuous high levels of plasma potassium or severe symptomatic uremia.

Other methods of securing extrarenal excretion of potassium and other metabolites have enjoyed limited success and are generally cumbersome, expensive, of limited effectiveness, and not without risk to the patient. The only known contraindication to dialysis is the presence of active bleeding which is likely to be accentuated by the heparinization necessary for dialysis. Even bleeding may not be a contraindication if it is possible to pack the bleeding area adequately.

The Renal Division of the Surgical Research Unit, Brooke Army Medical Center, uses an artificial kidney of the Brigham-Kolff type (fig. 1). As with other models of the artificial kidney, the method by which plasma chemistry is restored to normal depends upon the process of diffusion by which the metabolite and electrolyte molecules present in abnormal concentration pass through a cellophane membrane into and out of a dialysate bath of selected composition.

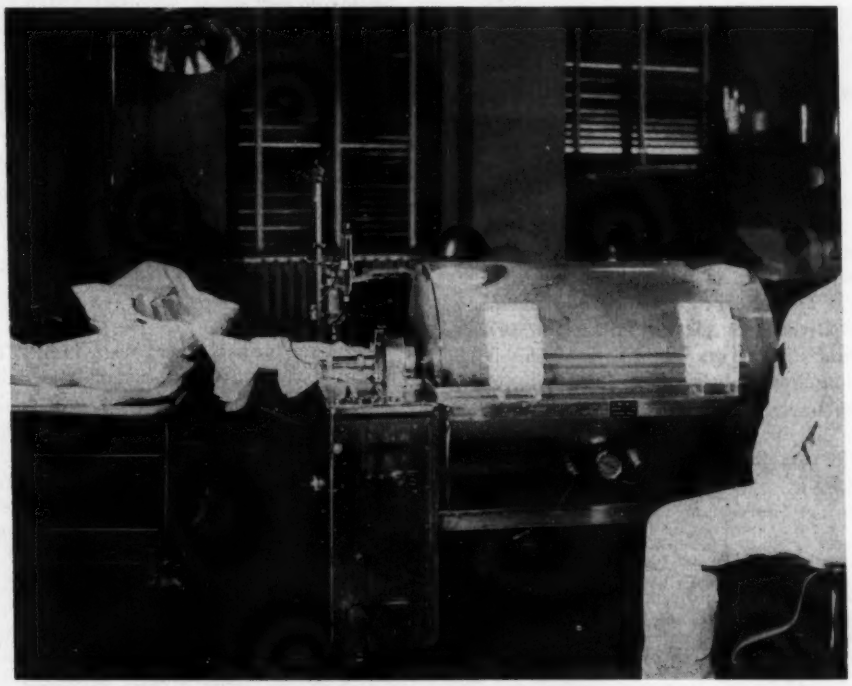

**Fig. 1.** Artificial kidney of the Brigham-Kolff type used at Brooke Army Medical Center.

This machine is efficient and adequate for all clinical purposes. By virtue of recent mechanical innovations,[2,4] it may be assembled and operated with a minimum of difficulty. Relatively brief periods of hemodialysis are usually sufficient to eliminate several days' metabolite accumulation and to restore distorted plasma electrolyte concentrations to normal.

## CASE REPORT

A 21 year old woman developed oliguria following a transfusion of whole blood. With markedly positive fluid

balance, vomitus replaced largely with dextrose in water, and active pelvic inflammatory disease in the subsequent seven days, marked myocardial potassium intoxication developed. Emergency therapy with 6 Gm. of calcium gluconate, 50 ml. of 50 per cent dextrose with 1 unit of regular insulin per 2 Gm. of dextrose, and 150 ml. of 5 per cent sodium chloride in this patient failed to affect the electrocardiogram or to prevent further rise in the plasma potassium level. Dialysis results are shown in table 1. The electrocardiogram reverted to normal and the patient survived an uneventful diuresis.

TABLE 1.—*Results of Dialysis in an Oliguric Patient.*

| | Plasma Levels | | | | |
|---|---|---|---|---|---|
| | mg./100 cc. | mEg./L. | | | |
| On 7th Post-Transfusion Day | NPN | Na | K | $CO_2$ | Cl |
| Predialysis | 337 | 117 | 8.3 | 8.0 | 74 |
| After 6 hr. dialysis | 101 | 136 | 3.1 | 22.3 | 93 |

## FACILITIES AVAILABLE

Because of the high case fatality rate in patients with acute renal failure of both traumatic and nontraumatic origin, the treatment facilities described in this paper are now available to civilian patients referred by practicing physicians in the Southwest who have no ready access to an artificial kidney. Arrangements should be made by telephone with members of the Renal Division, Surgical Research Unit, Brooke Army Medical Center, who are also available at all times for consultation in problems involving acute renal failure.

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♦ Major Teschan, Lieutenant Mason, and Captain Barquist, Brooke Army Medical Center, Fort Sam Houston.

# Urology In Obstetrics And Gynecology

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UROLOGY as a specialty is closely allied to obstetrics and gynecology. Having done general practice, I know that a large percentage of patients seen in this field have urologic problems. In some institutions female urology has been combined with gynecology in order that the patient may receive the best care and the residents the best training. We need to know more of each other's problems and opinions.

## OBSTETRICS

That the urinary tract bears insult during pregnancy is generally appreciated. The dilatation that occurs in the upper urinary tract is caused by two factors principally, that is, the relaxing effect of progestin and the obstructive factor of the pregnant enlarged uterus. The dilatation usually becomes apparent near the end of the first trimester and progresses to maximum at about the seventh month. There is also increased vesical capacity and the stasis that occurs offers a fertile field for infection.

More important than the treatment of urologic complications is the prevention. A history of previous pyelonephritis, vague unexplained abdominal symptoms, recurrent bladder symptoms, stones, or hematuria indicates the need for a complete urologic survey early in pregnancy. This will allow both the obstetrician and the urologist to cooperate more closely for the benefit of the patient.

The most common complication is, of course, pyelonephritis of pregnancy. Often there are no symptoms until the infection is full blown. The onset is sudden with chills, fever, and pain in the affected renal region. A low grade fever, however, may be the only symptom as pyelonephritis is one of the most common causes of fever in the pregnant woman.

DR. HUGH F. RIVES *read this paper before the Section on Obstetrics and Gynecology at the 1955 annual session of the Texas Medical Association in Fort Worth, April 25.*

As with any urinary infection associated with stasis, it may be difficult to control. A catheterized specimen of urine is obtained, and besides the routine study, a gram stain of the urinary sediment is made. This will classify the infection as either bacillary or coccal. As a routine I use Gantrisin, Furadantin, or Combiotic first, and if the infection does not subside rapidly, the urine should be cultured and sensitivity tests carried out on the organisms. These can be performed in almost any hospital laboratory today. In spite of adequate chemotherapy a few of these infections will not subside satisfactorily, chills and high spiking fever persist, and it becomes immediately necessary to provide adequate ureteral drainage. If this procedure fails to control the infection, one must consider cortical abscess of the kidney and appropriate drainage must be instituted.

The most important consideration in this disease and the factor most generally overlooked or neglected is the end results of pyelonephritis of pregnancy. Approximately one-half of the patients have some permanent damage to the urinary tract. Persistence of hydronephrosis, stasis, and infection is common. Atrophic pyelonephritis with hypertension may result.

## GYNECOLOGY

As mentioned previously, there are no two fields more closely related than gynecology and female urology. The urologist cannot adequately treat lower urinary tract infections without knowing the treatment of cervicitis and vaginitis and appreciating the relationship of pelvic pathology to the urinary tract, nor can the gynecologist treat pelvic disorders without knowing the relationship of urinary pathology to pelvic complaints.

Embryologically the structures are related. Anatomically the proximity alone makes the interpretation of pain a difficult problem. Cervicitis produces trigonitis; endometriosis involves both systems; congenital lesions involve both systems; and congenital pelvic kidney may be mistaken for ovarian or uterine masses.

Time will not permit a complete inventory in this field, and the most common urologic conditions that confront the gynecologist have been selected for short discussions.

## UROLOGIC CONDITIONS CONFRONTING GYNECOLOGIST

The female urethra is probably the most important urologic structure in relationship to gynecology. Folsom[2] and Powell[6] have called attention to its importance in pelvic complaints. Anatomically it is ideally situated so as to become infected. With the external meatus situated in a valley between the labia minora, bathed in the vaginal and rectal secretions, and traumatized by sexual intercourse, it is a wonder that any female gets by without at some time having a diseased urethra. Few do.

*Urethral Diverticulum.*—Urethral diverticulum is frequently overlooked by both urologist and gynecologist and was formerly thought to be a rare lesion. It is known now this is not an uncommon lesion. The symptoms are those of a chronic recurring urethritis and trigonitis. The patient often states that she leaks a slight amount of urine upon standing up after voiding. Dyspareunia is a common symptom. The diagnosis often can be made by digital examination of the urethra and palpation of a small mass, which on pressure empties into the urethra and out the external orifice. Pus or urine may be expressed by this maneuver. The diagnosis is confirmed by cystoscopy. The opening, however, may be minute and often can be seen only by expressing the contents of the diverticulum with the cystoscope in the urethra. The opening may be upon the anterior urethral wall. I believe this is one of the most overlooked lesions in the urethra.

The treatment is usually surgical excision. Small diverticula with large openings in the urethra may be managed by repeated massage over a female sound. Often there is an obstructive external urethral orifice upon which a meatotomy should be performed.

*Stricture of External Urethral Orifice.*—Stricture of the external urethral orifice is a frequent finding and accounts for a large percentage of the so-called recurrent urethritis. As one understands that there are many periurethral glands and these drain into the urethra, it is easy to understand that the external opening must allow complete urethral drainage or chronic infection will occur. Any external orifice which does not admit easily a number 30 or number 32 female sound should have a meatotomy. This can be done easily as an office procedure by crushing the tissue at the 6 o'clock position and cutting it with either an electrode or scissors as preferred. Powell[5] has presented both a good discussion and technique for this procedure. I believe it deserves much more consideration and recognition than it has received.

*Trigonitis and Urethritis.*—The problem of chronic recurrent trigonitis and urethritis is one that plagues both the urologist and gynecologist. I do not know the answers but can give what I believe to be the important considerations. First, a patient who has had recurrent lower urinary tract complaints should have a complete urologic study with excretory urograms, urine culture, cystoscopy, and retrograde pyelograms as indicated. Too many lesions of the upper urinary tract are overlooked if this plan is not fol-

lowed. Silent stones, ureteropelvic obstructions (fig. 1), calycine diverticula (fig. 2), tumors, congenital lesions such as duplication with impaired drainage, and tuberculosis are sometimes easy to miss.

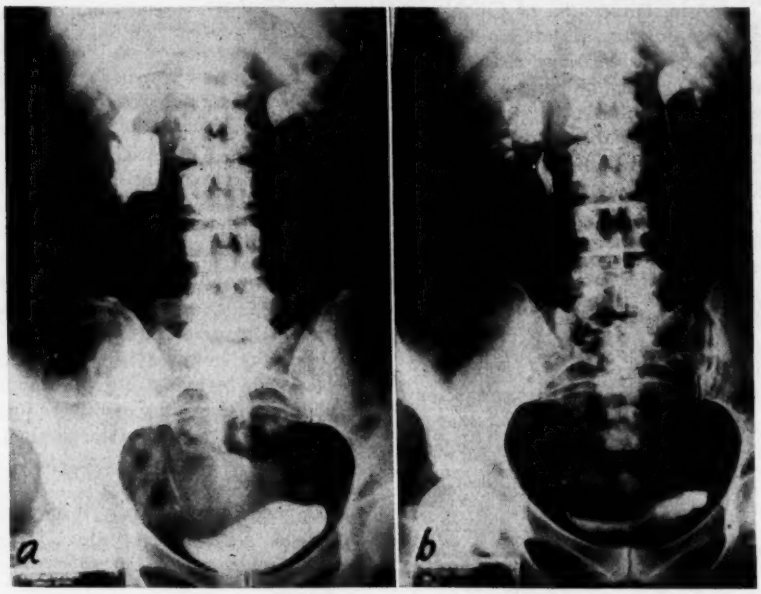


**Fig. 1.** A 40 year old white woman had complaints of lower abdominal discomfort, slight frequency, and dysuria.
a. An excretory urogram revealed ureteropelvic obstruction with grade 3 pyelectasis.
b. A postoperative excretory urogram at three months revealed sharp calyceal delineation with prompt emptying.

Next, obstruction in the urethra either at the vesical neck or the external orifice must be excluded. Mild obstructions at the bladder neck with little or no trabeculation of the bladder and no residual urine may be treated conservatively with urethral sounding and chemotherapy. However, if trabeculation of the bladder is present, I believe that a large percentage of cases will continue to have recurrent difficulties until the vesical neck is resected. I have given up the contention that residual urine must be present but still believe more uniformly better results are obtained when it is present.

Third, in the treatment of urethritis the urine must be rendered sterile. Many of these patients have never had a sterile urine since their first infection because of two reasons: (1) their medication was taken only so long as symptoms persisted and not until a negative culture was obtained, and (2) the organism present was either resistant or became so to the drug being used. One must persist in treating the organism until it is eradicated, and, of course, it has to be susceptible to the drug used. If the aforementioned factors are considered and disposed of satisfactorily, intermittent chemotherapy and dilatation remains the treatment of choice. I believe the difficult decision is whether or not to resect the vesical neck in these patients. I do not believe in fulguration of the female urethra as it promotes scar tissue and later obstruction. However, in fairness, it is an accepted method of therapy used by many urologists. A persistent lower urinary tract infection with recurrent episodes of frequency, nocturia, urgency, and dysuria is frequently encountered.

The important point is that every patient who has had pyelonephritis of pregnancy should have at least an excretory urogram and a careful study (microscopic and culture) of the urine three to four months after delivery. This is a situation which calls for closer cooperation between the obstetrician and the urologist.

*Stone Disease.*—Stone disease in pregnancy is not common. Early history and urologic study allows one to evaluate the situation. If a ureteral stone is present early in pregnancy, it should be removed. Renal stone should be treated conservatively unless it is (1) impacted at the ureteropelvic juncture causing nonfunctioning kidney; (2) acute pyonephrosis is present; or (3) severe recurrent pain is present. If it is necessary to remove a ureteral stone, it should be approached extraperitoneally and in cooperation with the obstetrician.

*Interstitial Cystitis.*—Another confusing lesion in urology is interstitial cystitis. First described by Hu-

ner[3] in 1914, it is also known as Hunner's ulcer, panmural fibrosis, panmural cystitis, and contracted bladder.

The cause of interstitial cystitis is unknown. Infection is associated in a small percentage of cases,

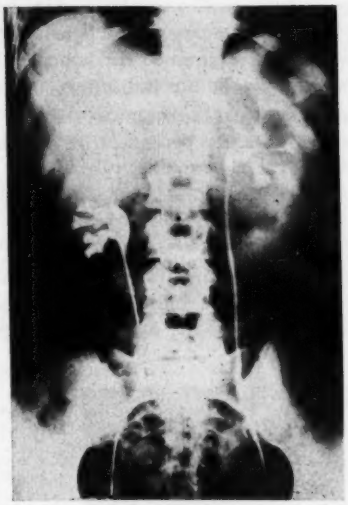

**Fig. 2.** Calycine diverticula with stones were seen in a 38 year old white woman with complaints of frequency and dysuria. Vague abdominal symptoms such as flatulence and indefinite discomfort in the epigastrium resulted in roentgen-ray studies of the gallbladder, stomach, and colon. A left heminephrectomy relieved the patient of all symptoms.

and so far as is known it is not related to hormonal deficiency. Ten to 12 per cent of the cases occur in males, but it is essentially a disease of middle aged women.

Pathologically the picture is one of a nonspecific inflammatory reaction, a thick bladder wall, and a small contracted bladder.

Symptoms of interstitial cystitis are bizarre. Any pain in the pelvis could be related. The most characteristic syndrome consists of marked frequency, nocturia, and pain which is relieved somewhat by voiding, only to recur as the bladder distends. The pain is most often suprapubic and pointlike in character. However, it may be vaginal or be located anywhere in the pelvis. These patients must have nocturia. One who has marked frequency during the day but sleeps through the night does not have interstitial cystitis. The pain and frequency are often so severe these patients can seldom sit through a picture show or church service. In a series reported from the Mayo Clinic by Pool and me,[4] we noted an average of 2.5 pelvic operations per patient before the diagnosis was made. It is evident, therefore, that this disease offers a pitfall not only to the urologist but to the gynecologist. Emmett[1] has stated it is the most missed lesion in urology.

As mentioned before, infection is not often associated, the urine being negative microscopically and to the gram stain and culture 70 per cent of the time. A negative urine, therefore, means nothing in ruling out this lesion of the bladder. The diagnosis is made cystoscopically by the appearance of the lesions and usually a low bladder capacity which will average about 100 cc.

The treatment of choice is overdistention of the bladder under anesthesia and light fulguration of the lesions as the mucosa splits, followed by administration of cortisone for about four to six weeks. Office treatment using increasing strengths of silver nitrate (from 1/5,000 to 1/100) over a period of 12 to 14 days will give relief in a large percentage of cases. The lesions may progress to the point that all treatment fails, and total cystectomy with bilateral ureterosigmoidectomy becomes necessary.

## ENDOMETRIOSIS

Endometriosis is a gynecologic disease occasionally having urologic complications. First and most common is extrinsic obstruction to the ureters as they go through the broad ligament near the cervix. Second, endometriosis rarely invades the bladder causing cyclic hematuria. Cystoscopically a bluish lesion is seen; it is most easily seen two to three days prior to menstruation. If it is small, the lesion may be destroyed by fulguration, but if it is of any appreciable size, oophorectomy and resection of the bladder wall are indicated.

## TRAUMATIC INJURIES

Vesicovaginal fistula deserves little mention in this discussion. It usually occurs as a result of surgical trauma. In the past it was more often a result of trauma during delivery, but in the past ten years I have not seen a vesicovaginal fistula caused by obstetric trauma. Of course, if one recognizes the traumatic lesion to the bladder at the time of surgery, it is best to repair it immediately. If, however, as is usually the case, it is noted 8 to 12 days later, the most important factor involved is time. These fistulas cannot be reoperated on while the tissues are still edematous, and at least four to six months' time should be given to allow the tissues to return as nearly as possible to normal.

In any case of vesicovaginal fistula a complete urologic study should be made in order to know the extent and location of the fistula and whether or not

damage to the upper urinary tract has occurred. One may have a case with both a ureterovaginal and a vesicovaginal fistula. The treatment is surgical. If the fistula is very small, one may pass a fulgurating electrode through it and, as it is pulled back, lightly fulgurate the fistula. I have seen 2 fistulas close after this simple procedure, which is of course combined with 8 to 10 days of indwelling catheter drainage. For fistulas near the trigone, I prefer the vaginal approach; for those higher in the vaginal vault on the base of the bladder, the suprapubic approach is preferable.

## URETERAL INJURIES

While one may feel "it can't happen to me," ureteral injuries happen in the best of surgical families. In fact, most reported series come from teaching institutions. I realize there are many unreported cases. Unilateral ureteral injury is usually not recognized immediately, the diagnosis being made at a later date when investigating either pain or infection (fig. 3).

Bilateral ligation usually is recognized within 24 hours because of anuria. One must reexplore immediately and correct the damage done.

The procedures of choice are as follows:

1. Reimplantation of the proximal end of the ureter into the bladder if the injury is low enough. Usually if the injury is within 8 cm. of the ureterovesical juncture it may be reimplanted into the bladder.

2. Spatulation of the ends of the ureter with an end to end anastomosis. An oblique cut is made at the end of each segment so that when the end to end anastomosis is performed the lumen is larger or at least as large as the ureteral lumen.

3. Ureterointestinal anastomosis, which may be performed as an extra peritoneal or intraperitoneal procedure on one or both sides. This would be indicated only in injuries too high for reimplantation into the bladder and with an injured segment too long to permit end to end anastomosis.

4. Ureteroureterostomy. In a unilateral injury too high for reimplantation into the bladder the ureter may be brought across the midline retroperitoneally and anastomosed to the opposite ureter as an end to side anastomosis.

5. Finally, nephrectomy, which may be advisable in unilateral injury with a normal opposite kidney. This of course would not be carried out if one could hope to salvage enough renal function to sustain life should the patient lose the opposite kidney. It most likely would be indicated in the elderly patient.

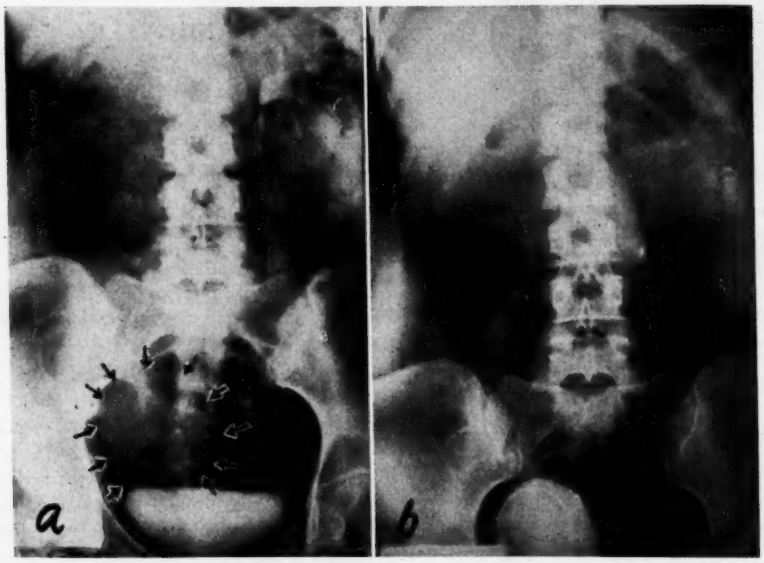


**Fig. 3.** A 42 year old white woman had the right ureter severed during the removal of a large fibroid. It was immediately sutured by end to end anastomosis.

a. Eight months later a nonfunctioning right kidney and a pelvic mass were noted on an excretory urogram.

b. A ureterogram showed a large cystic mass in the right lower ureteral area. A right nephrectomy and removal of the cystic mass in the pelvis were necessary.

## CONCLUSION

In summarizing, the most important urologic considerations in obstetrics are (1) prevention by urologic study early, (2) pyelonephritis of pregnancy to be treated with appropriate chemotherapy and antibiotics, and (3) follow-up on pyelonephritis of pregnancy.

In gynecologic practice one must consider the possibility of urethral diverticula, urethritis, interstitial cystitis, and other urologic lesions in explaining pelvic pain. A normal urine does not exclude urologic disease. The presence of bladder symptoms at times may be the result of gynecologic disease, but this should not be assumed until the urinary tract has been studied.

Injuries to bladder and ureter will continue to occur. Urologic procedures of choice are outlined.

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## City People View Medical Services

What do people who have slightly above average medical services available really think about these services? A survey of such a city, located in the industrial northeastern United States, brings out interesting opinions which are centered around a desire for more personal medical care. The survey was conducted by Earl Lomon Koos, Ph. D., professor of social welfare at Florida State University, Tallahassee, under a grant from the National Institutes of Health.

A summary of his findings shows that this city views its medical services with mixed emotions. It accepts its medical care, in general, without undue reaction against the cost, but with strong reservations regarding the emphasis upon technical medicine given without regard for human relationships. It accepts hospital care, but with strong reservations regarding both costs and hospital-patient relations. It takes for granted public health services, and has little recognition of what public health really has to offer. It views with remarkable complacency and nonmedical services which attempt so feebly to substitute for medical services. In short, despite the excellence of its medical personnel, its hospitals, and its public health department, this city is, in the opinion of the public, far from being superior as regards medical care.

# Carcinoma of the Uterine Cervix

## *Four Years of Cooperation Of Gynecologist And Radiotherapist*

**JOHN A. ISHERWOOD, COL., MC, USA, JOHN W. SIMPSON, COL., MC, USA, and EUGENE L. SAENGER, MAJOR, MC, USAR**

***Fort Sam Houston, Texas***

CARCINOMA of the cervix uteri is often treated haphazardly with great emphasis on "individualization" of therapy. If therapy for cancer is to be evaluated so that a uniformly effective method can be achieved, it is desirable that large clinics establish a plan whereby all patients in the same stage of this disease be treated in an identical manner over a period of years. Thus, the results from several large series could be compared critically. The confusion resulting from introducing variations of technique within relatively short intervals in a given institution serves no valid purpose toward this end.

COL. JOHN A. ISHERWOOD, *chief of radiology, Brooke Army Hospital, read this report for the Section on Radiology, Texas Medical Association Annual Session, Fort Worth, April 26, 1955.*

At Brooke Army Hospital a cooperative program of therapy by the Radiology and Gynecology Services was carried out during the past several years. The plan was a rigid one in which each patient was treated in the same manner, once the diagnosis had been made and the stage of the disease determined. Although the follow-up interval is not sufficient to evaluate five and ten year cure rates, certain favorable

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trends which indicate certain advantages of our approach have become evident.

This report is concerned with patients with invasive carcinoma of the cervix; patients with carcinoma in situ are not included. The methods of patient work-up, clinical staging, selection of therapy, and techniques of therapy are described.

## PATIENTS AND PROCEDURE

One hundred thirty-four patients with invasive carcinoma were seen at Brooke Army Hospital between January 1, 1948, and June 30, 1954. In discussing results of therapy only those patients seen prior to January 1, 1953, are considered; this group includes 89 persons. The mean age for the entire series (134 patients) was 43 years; the median, 41 years; the range, 20 to 80 years. The age distribution correlates well with that of patients with this ailment in civilian hospitals. Only 2 of the patients were members of the armed services; all others were dependents.

All lesions were staged according to the method of the League of Nations. The diagnosis in each patient was established by biopsy. Each patient had a complete history and physical examination, a complete blood count, serologic test for syphilis, blood urea nitrogen determination, and urinalysis. The urinary tract was studied by intravenous pyelography and cystoscopy; retrograde urography was performed if indicated. The colon was studied by sigmoidoscopy and barium enema. A chest roentgenogram and electrocardiogram were obtained routinely. When indicated, pelvic examination was carried out under anesthesia. In addition to the initial biopsy, which was often the reason for referral, dilatation and fractional curettage were performed in an effort to determine the extent of invasion of the uterine canal. All histologic sections were examined carefully and classified by the Department of Pathology.

At the completion of these studies, the choice of therapy in each patient was determined by joint consultation of the Gynecology and Radiology Services. The patient was examined independently by the gynecologist and radiologist before staging was determined. The criteria for surgery were as follows: The lesion was required to be in early stage 1, and the urinary tract normal. In the presence of pelvic infection either in stage 1 or early stage 2, we preferred surgical therapy because of the less satisfactory response of the infected area to massive irradiation. Such infections include pelvic inflammatory disease due to puerperal and post abortion infection, venereal disease, appendiceal disease, or hydrosalpinx. The microscopic characteristics of the lesion were given considerably less weight in the determination of surgical therapy than the extent of disease or staging. The microscopic appearance affected the choice of therapy to the following degree: If in a large cervix there was microscopic evidence of extensive lymphatic and vascular invasion, it was probable that there was early remote extension; therefore, we preferred not to use surgery in such patients. If the growth was clinically exophytic, with little evidence of vascular and lymphatic invasion, surgery was considered more seriously.

Radiation therapy was used in stage 1 patients not suitable for surgery and in those patients who had other diseases which contraindicated such extensive surgery. These contraindications included massive obesity, severe chronic infections of other systems such as pulmonary tuberculosis, severe cardiovascular or cerebral disease, and other debilitating conditions. Irradiation was preferred in patients more than 50 years of age. Blood dyscrasias and abnormalities such as prolonged clotting times also were considered contraindications to surgery. In stage 2 lesions, irradiation was the preferred method of therapy except in the presence of severe pelvic infection. All patients who had stage 3 or 4 neoplasms were treated by irradiation. Some patients with stage 4 cancers received no radiation therapy since they were considered to be terminal.

Patients who were treated surgically had a panhysterectomy, bilateral salpingo-oophorectomy, and radical dissection of pelvic lymph nodes. The aortic lymph nodes were removed.

Irradiation therapy for the most part was combined radium and external roentgen-radiation. Certain early stage 1 lesions not suitable for surgery because of obesity or other causes were treated with radium only. All others received both external roentgen-ray therapy and radium. Except for minor modifications irradiation therapy was carried out as follows: The factors used were 210 kilovolts, Villard rectification, filtration 0.5 mm. of copper and 1 mm. of aluminum, half value layer 1.0 mm. of copper, target skin distance 50 cm. Six fields were used, anterior, sacral, and gluteal on each side, so arranged as to crossfire the pelvic lymph nodes. Field size was 7 by 12 cm. All fields were separated by a distance of 4 cm. in the midline. The positions of the several fields were checked by means of roentgenograms so that their positions could be determined accurately. The first course of radiation delivered 1,500 r in air to each port in 18 to 20 days. Three days after this external therapy 3,500 mg. hours of radium was administered. The radium was then removed for four days and was then reinserted for 3,500 mg. hours given in three to four days. The following day roentgen-radiation was begun again and continued until a total of 3,000 r in air was administered to each portal. The total course of irradiation was carried out in

approximately 53 days. Radium therapy was given with an Ernst type applicator.

The radium insertion was carried out at about the midpoint of external irradiation because by this time there was some shrinkage of the tumor. The possibility of infection was lessened, and these changes made the radium insertion somewhat easier.

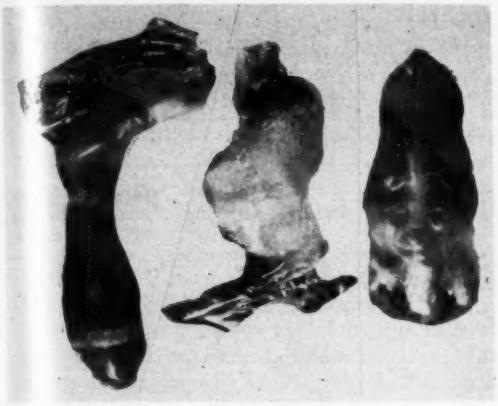

**Fig. 1.** Plastic molds used to improve radium therapy of metastases to the distal two-thirds of the vagina.

At the time of insertion of the radium applicator, sodium iodide was inserted in the bladder and barium sulfate was placed in the rectum. A silver clip was placed on the anterior lip of the cervix. An indwelling catheter was left in the bladder during the radium insertion. Oxytetracycline ointment was used to lubricate the vaginal packing to minimize vaginal infection and to reduce the offensive odor following this procedure. The patient was maintained on a low residue diet.

In occasional patients in stages 3 and 4 with direct invasion or metastatic spread to the vagina, the distribution of vaginal radium in the Ernst applicator was not satisfactory for adequate dosage to these extensions. Therefore, a mold was made of the vagina which was then cast in methyl methacrylate, a dental plastic. Holes were then drilled in the plastic mold to permit the best arrangement of radium sources for irradiation of the mid and lower vagina (fig. 1).

With evidence of any infection, suitable antibiotic therapy was given at any time during the course of radiation.

Tumor dosage to a point 5 cm. lateral to the uterine canal in the midplane of the pelvis varied from 4,500 to 7,000 r. The dose from radium to a point 2 cm. lateral to the cervical canal was 4,204 r.

## RESULTS

The results attained in our series of patients are difficult to evaluate since the follow-up period was relatively short. Analysis of 89 patients followed for periods of 18 to 48 months seems of sufficient interest to warrant preliminary discussion.

The method of selection for therapy in our clinic was to treat surgically those patients with earliest invasive carcinoma. Patients in whom the disease was slightly more advanced, although still falling in stage 1, were treated with radiation as were all patients in stages 2, 3, and 4. Earlier in the series some patients in stage 1 were treated with combined surgery and irradiation.

A distribution of treated patients is shown in table 1. Of particular interest is the absence of mortality from cancer in stage 1 patients treated surgically. Although these patients were carefully selected for this form of therapy, such a method of selection is none the less valid if applied rigorously to all patients. The survival rates for radiation and surgical therapy seem entirely compatible with results from other centers in spite of the short follow-up time and especially since the less favorable cases were selected for radiation.[1, 4, 5] Four-fifths of all patients in stage 1 treated by both methods and followed for four years survived (table 2). Survival rates for stage 2 and stage 3 patients were comparable to other series. The results for stage 4 were uniformly poor. There were 3 patients with carcinoma of the cervical stump treated with radiation. After follow-up periods of two, three,

TABLE 1.—*Distribution of Patients Treated for Carcinoma of Cervix, Brooke Army Hospital, 1948-1952 (84 Patients).*

| Stage | Therapy | Time of Follow-Up (yr.) 1.5 Patients Treated | 1.5 Free of Disease | 2 Patients Treated | 2 Free of Disease | 3 Patients Treated | 3 Free of Disease | 4 Patients Treated | 4 Free of Disease |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Surgery | 3 | 3 | 3 | 3 | 0 | 0 | 5 | 5 |
| 1 | Radiation | 4 | 3 | 5 | 4 | 4 | 4 | 10 | 6 |
| 1 | Radiation and surgery | 0 | 0 | 1 | 1 | 1 | 1 | 6 | 6 |
| 2 | Radiation | 7 | 2 | 8 | 4 | 3 | 3 | 2 | 2 |
| 3 | Radiation | 7 | 2 | 4 | 1 | 1 | 1 | 1 | 1 |
| 4 | Radiation | 3 | 0 | 3 | 0 | 1 | 0 | 2 | 0 |

and four years, respectively, these patients were apparently free of disease.

Thirty-one patients were treated surgically. Complications of surgical therapy were few. Three patients developed pelvic abscesses and 1 patient had postoperative hemorrhage. None of these complications was fatal. There were no urinary or fecal fistulas and no deaths.

remain in its early invasive stage for some time before extending rapidly either by local or distant metastasis. Thus, the patients with stages 2, 3, and 4 carcinomas represent persons with lesions which have been present for a relatively long time. In this disease, therefore, the opportunity to make an early diagnosis is increased. Also there is a greater opportunity to achieve total ablation of the tumor in its early phase.

Our group of 131 patients were analyzed to determine the mean and median ages at diagnosis of carcinoma of the cervix. The mean age of stage 1 patients was 39.5 years, median 37.5 years. The mean age of patients of stages 2, 3, and 4 was 46.4 years, median 45.5 years. From this analysis we can infer that there is a mean interval of about five years between the development of stage 2, 3, or 4 carcinoma progressing from stage 1. There is no doubt as to the increase in salvage in the comparison of these two groups for carcinoma of the cervix.

TABLE 2.—*Survival of Patients Treated for Carcinoma of Cervix, Brooke Army Hospital, 1950-1954 (89 Patients).*

| | | Time of Follow-Up (yr.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1.5 | | 2 | | 3 | | 4 | |
| Stage | Therapy | Patients | Patients Surviving Disease | Patients | Patients Surviving Disease | Patients | Patients Surviving Disease | Patients | Patients Surviving Disease |
| 1 | Surgery | 11 | 11 | 8 | 8 | 5 | 5 | 5 | 5 |
| 1 | Radiation | 23 | 15 | 19 | 14 | 14 | 10 | 10 | 6 |
| 1 | Radiation and surgery | 8 | 8 | 8 | 8 | 7 | 7 | 6 | 6 |
| 2 | Radiation | 20 | 12 | 13 | 9 | 3 | 0 | 2 | 0 |
| 3 | Radiation | 7 | 2 | 4 | 1 | 1 | 0 | 1 | 0 |
| 4 | Radiation | 10 | 5 | 1 | 0 | 1 | 0 | — | — |

One hundred patients were treated with radiation therapy. Complications which could be attributed to therapy included 1 patient with radiation ulcer of the bladder, 2 with pyometrium, and 1 with proctitis requiring a diverting colostomy. Transient mild cystitis and proctitis were noted frequently.

## DISCUSSION

The ultimate evaluation of the approach to the therapy of carcinoma of the cervix as outlined herein will require the passage of time. The efficacy of applying controlled treatment criteria to these patients already seems to be established.

In considering the value of any form of therapy in affecting survival of a patient with any type of cancer, much consideration should be given to the natural history of the disease itself. For example, several authors in the past few years[6, 8] have raised a serious question as to whether various forms of therapy really modify the course of carcinoma of the breast. Small and Dutton[8] have pointed out that survival following radical mastectomy in a large group of patients differs but little from survival following other forms of therapy. One wonders whether either form of therapy actually modifies the disease if its degree of malignancy is high.

The life history of carcinoma of the cervix gives a rather different picture. The studies of Galvin, Jones, and TeLinde[2] have demonstrated that carcinoma of the cervix begins as an intra-epithelial lesion, often in the second or third decade, and gradually proceeds to an invasive stage. This lesion may well

This analysis was then extended to the data of Galvin, Jones, and TeLinde[1] to determine the mean interval of progress from carcinoma in situ to stage 1 lesions. The time for this change ranged from 6 months to 12.5 years; the mean and median times being 5 years. Therefore, we may infer that one has 5 to 10 years in which carcinoma of the cervix is present before it reaches a stage 2 lesions. These data from our series and that of Galvin and associates then may be grouped with Shimkin's summary concerning untreated carcinoma of the cervix.[7] It seems unlikely that patients with carcinoma in situ or stage 1 lesions die of their disease. Therefore, these patients who are surviving at a low rate must be in stages 2, 3, or 4; and from the previous analyses we can add a mean survival period of approximately 5 years for the disease to progress from stage 1 to stages 2, 3, or 4, and an additional period of 5 years for progression from an in situ lesion to stage 1. This concept may not be entirely correct, but it is certainly descriptive of the clinical problem which we face in this disease.

In our series, 63 patients, or 47 per cent, were in stage 1. In a larger series reported by Garcia

Charity Hospital in New Orleans, 110 patients or 11.7 per cent of 943 patients were in stage 1.[4] The difference in possible cure rates is obvious.

Another factor which is important in the application of proper therapy is the ability to stage lesions correctly. In 31 patients subjected to exploratory surgery only three errors were made in staging.

Improvement in results of surgery and radiation therapy in this disease can be anticipated if treatment is carried out by a relatively small group of highly trained physicians who are particularly interested in the disease.

## CONCLUSIONS

Treatment of carcinoma of the cervix should be prescribed rigidly by the sole criterion of extent of disease. A planned therapeutic program should be followed for a long enough period so that suitable comparisons can be made between series in large clinics in order to provide a uniformly effective method of therapy in carcinoma of the cervix.

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### MENTAL HEALTH POSITION OPEN

The Texas State Department of Health is conducting examinations to fill the position of director of the mental health division. The salary range is from $9,720 to $12,120. The applicant must have a degree of doctor of medicine and one year's internship, a master of public health degree or certification by the American Board of Psychiatry and Neurology, and five years of training and experience in psychiatry or pediatric-psychiatry. Application may be obtained from the Merit System Council, 814 Littlefield Building, Austin.

# Routine Sigmoidoscopy In the Absence of Bowel Symptoms

**SAMUEL SIMKIN, M. D.**

***Houston, Texas***

THIS is the age of the "scopes"—as it should be, for "seeing is believing." The scopes, such as the sigmoidoscope, cystoscope, laryngoscope, and ophthalmoscope, in many instances have been the means of bringing a theoretical diagnosis to a practical conclusion. Unfortuntely, however, the potentialities of the sigmoidoscope have never been fully realized. It is the purpose of this paper not only to make a plea for earlier diagnosis of rectal cancer by more frequent use of the sigmoidoscope when indicated, but also strongly to advocate sigmoidoscopic examination. This procedure is urged not only for the purposes of making an early diagnosis of rectal cancer, but also as a means of finding and eradicating its precursor, the adenoma.

DR. SAMUEL SIMKIN, *a diplomate of the American Board of Surgery, is a Houston proctologist.*

## SYMPTOMS

Bockus,[2] in his excellent text, stated that malignant disease of the large bowel should be suspected in all patients past the age of 30 whenever there appear (1) a change in bowel habits, such as constipation or diarrhea; (2) a recently acquired abdominal discomfort, soreness, or pain related to the act of defecation; (3) gradual development of increasing distension and peristaltic unrest; (4) attacks of partial intestinal obstruction or abrupt onset of complete obstruction for which no cause such as hernia is ap-

parent; (5) passage of blood from the rectum; (6) an abdominal mass; (7) progressive anemia; and/or (8) loss of weight and strength which is unexplained. In the presence of these features, he recommended that studies to include a digital examination of the rectum, sigmoidoscopy, and roentgen-ray examination should be instituted at once.

Unquestionably, Bockus' advice is sound and the studies recommended, if carried out, would increase considerably our detection of cases of cancer of the large bowel. However, the symptoms enumerated above are those found not only in actual cancer but in advanced cancer. We must find these bowel cancers when they are early cancers and preferably when they are not cancers at all, but adenomas. In a patient with the symptoms mentioned there already has been too long a delay in diagnosis.

## DIAGNOSIS

Delay in diagnosis long has been accepted as the single most important reason for the discouraging results in cancer of the colon. The diagnosis today is being made no earlier despite advances in all branches of medicine. At the Massachusetts General Hospital, for example, the delay between the first symptoms and admission to the hospital has remained an average of eight months.[1] In the past, we as physicians have generously assigned the major portion of the blame to the laity and their ignorance in attaching too little importance to warning symptoms referable to the bowel. However, numerous reports are appearing in the literature which indicate that we as physicians are failing to institute thorough studies of the colon and rectum in patients presenting themselves with suggestive symptoms of malignant disease of the large bowel.

For example, of 100 patients with cancer of the rectum referred to the Memorial Hospital in New York, 20 per cent had not received a digital examination, only 34 per cent had received a sigmoidoscopic examination, a confirmatory biopsy had been done on only 11 patients, and 9 patients had received only a roentgen-ray examination.[3] Brittain[4] found that of 134 patients with palpable rectal cancer a correct diagnosis had been made prior to admission to the hospital in only 62 per cent. Buie,[5] in reporting on 1,073 patients with malignant disease of the rectum who had been attended by physicians before coming to the Mayo Clinic, found that 48.5 per cent of these patients had been operated upon for conditions unrelated to the malignant lesion. Graham,[10] in reporting on a series of cancer of the rectum, noted that approximately 50 per cent of the patients had received originally an incorrect diagnosis of bleeding piles or colitis; yet in all but 3 instances the growth was within reach of the examining finger.

These studies indicate how difficult it has been to impress upon our own profession the need for thorough studies of the colon and rectum in all patients with symptoms referable to these organs. This difficulty is believed to be due to the following factors:

1. A disturbingly large percentage of members of the medical profession are regarding malignant tumors of the colon and rectum only in the light of their late manifestations.

2. Symptoms of bowel diseases, in general, are so similar that cancers are being treated as other diseases for long periods of time without thorough investigation. Thus, according to Pemberton and Dixon[15] and Garlock, Ginzburg, and Glass,[9] roughly 20 to 25 per cent of patients with cancer of the rectum and anus have been subjected to hemorrhoidectomy within the six months prior to the recognition of the malignant lesion. Mayo[14] reported that approximately 15 per cent of patients with cancer of the right colon undergo appendectomy after the onset of symptoms. T. E. Jones[12] reported that 1 of every 4 patients with cancer of the colon or rectum is treated for diarrhea for long periods of time.

3. There has been too great a reliance on the barium enema to the exclusion of the digital and sigmoidoscopic examination. Combined roentgenoscopic and roentgenographic study of the large bowel by means of a barium enema are invaluable in the diagnosis of a malignant condition. However, their greatest usefulness is in the recognition of those 25 per cent of lesions which are above the reach of the examining finger and beyond the view of the sigmoidoscope; in this region a diagnostic accuracy of more than 90 per cent is to be expected. The lower portion of the bowel, however, is difficult to examine by roentgen ray; diagnostic accuracy is in the neighborhood of only 50 per cent for lesions in the rectum and 75 per cent for those in the rectosigmoid. Thus roentgen examination of the large intestine, despite its great value, is by no means proof positive. Strongly to be condemned is the practice, unfortunately so widely followed, of relying on the findings by barium enema without recourse to digital or proctosigmoidoscopic examination. One should studiously avoid a sense of false security given by negative reports made following barium enema study, particularly when there are clinical indications of malignant disease of the colon. It is becoming increasingly evident that in practically all instances sigmoidoscopic examination should precede barium enema study of the colon.

How then can we overcome this delay in diagnosis? We must accept symptoms of bowel cancers for what they are—late manifestations. We must find rectal cancers when they are early cancers and preferably when they are not cancers at all, but still in the premalignant stage, the adenoma. To do this, exam-

tion must be done before the patient has any symptoms at all referable to the colon; that is, sigmoidoscopic examination must be done as part of every routine physical examination in all patients 35 years of age or over. This policy is not new; it has been advocated by investigators in the past. It is lamentable that it has never been accepted. Perhaps this has been due to the failure of our profession to accept the adenoma-carcinoma sequence in the development of cancer of the large bowel.

## POLYPS AND CARCINOMA

Although complete proof is lacking that all cancers of the large intestine originate in polyps (adenomas), there is considerable evidence to support the belief that many of them arise in just such manner:

1. Polyps are frequently associated with cancer; approximately 18 per cent of all resected cancers are found to have one or more polyps adjacent to the lesion. If one were to consider the entire large bowel, the rate would be considerably higher.

2. There is a remarkably close parallelism between the location of polyps and cancers in the various segments of the large bowel. Thus, approximately 70 per cent of all cancers of the large bowel occur within the reach of the sigmoidoscope; 70 per cent of all polyps are to be found in this same area.

3. There is a close parallelism between the two conditions with regard to age and sex distribution, males predominating over females by three to two in both, and both lesions occurring in the same age groups.

4. Several reports have appeared which indicate that untreated polyps subsequently will show superimposed cancer. For example, Buie and Brust[6] studied the records of 200 patients who had polyps which could be seen through the proctoscope. All were advised to permit destruction of the polyps by fulguration. Four of these patients refused this advice. All 4 returned within three years complaining of intestinal symptoms and, in examination of each, a cancer was found at the site of the polyp which previously had been seen and left untreated.

5. Patients with untreated familial polyposis of the colon almost invariably will develop and die of cancer of the colon if they do not succumb to hemorrhage or some other disease.

6. Histopathologically, many small polyps which grossly appear to be benign show adenocarcinomatous change. Furthermore, in many instances a lesion for which a histologic diagnosis of adenoma is made on the basis of routine biopsy subsequently has proved to be carcinoma. An interesting report with regard to this was that from the Mayo Clinic[8] in which 141 biopsy specimens from 141 patients with an original diagnosis of adenoma were reexamined. An attempt was made to correlate the diagnosis made on histologic classification with those of the proctologic and surgical examination. Of the 141 lesions with an original diagnosis of adenoma made by biopsy, later 50 proved to be adenocarcinoma and 81 proved to be polypoid lesions either with or without malignant changes.

The actual incidence of malignant transformation of polyps is not known and only can be roughly estimated. Estimates have ranged from 35 per cent to 85 per cent. In this connection Lockhart-Munnery[16] stated:

> The most important factor in connection with simple adenomata, whether of the single or multiple variety, is that they show a marked tendency sooner or later to become malignant, i.e., for the cells to penetrate the basement membrane and invade the surrounding structures. We are of the opinion that all adenomata of the rectum eventually take on malignant change and in the great majority of cases in which large adenomata have been removed, malignant change has been found to have already occurred in some part or other of the tumor. So marked is this tendency for simple adenomata to become malignant, that personally we look upon adenomata as merely a stage in the development of malignant disease, and regard simple adenomata of the rectum as a definite pre-cancerous condition. It follows from this that on no account should a single adenoma of the rectum be allowed to remain, even if it is causing no troublesome symptoms; it should be removed as soon as possible.

## ROUTINE PROCTOSIGMOIDOSCOPIC EXAMINATION

Once we have accepted the evidence that all adenomas are either potentially or actually malignant, it is a logical step to accept proctosigmoidoscopic examination as being necessary to every routine examination, for at least 70 per cent of all adenomas, as all cancers, occur in that part of the bowel accessible to the sigmoidoscope. These routine examinations will disclose approximately 10 per cent of patients subjected to proctosigmoidoscopic examination to have either polyp or early cancer in the absence of symptoms referable to the lower bowel.

Let us compare these figures with other routine examinations. There are those who have been enthusiastic advocates of the use of Papanicolaou vaginal smears as a means of diagnosing early cancer of the cervix and endometrium. No doubt this procedure is warranted as a screening method to be used in symptomless women of the cancer age: but only about 1 case is found in every 1,000 cervical smears examined. Further, Stewart[17] has thoughtfully pointed out that the discovery of 1 early cervical or endometrial cancer by this means entails some 400 hours of work by a trained pathologist. McFarlane,[15] reporting from a cancer detection clinic, found only

4 cancers of the cervix in a series of 9,111 pelvic examinations (1,319 women between the ages of 30 and 80).

Similar studies such as routine roentgenograms of the chest, routine gastrointestinal series, and routine breast examinations all indicate that in the absence of symptoms, no single examination will disclose more significant findings than that revealed by routine proctosigmoidoscopic examination. For example, Jackman and Mayo[11] reported from the Mayo Clinic that sigmoidoscopic examinations were done, as part of the general clinical examination, on 1,000 adults in the age group of 30 to 70 years who had no symptoms suggestive of any difficulty with the large bowel —specifically, no passage of blood from the rectum nor any change in bowel habits. Twelve per cent of them were found to have 1 or more polyps, and in a small percentage, early frank carcinomas were found within reach of the sigmoidoscope. In a comparable group of 1,000 adults in the same age bracket who did have symptoms, that is, rectal bleeding or change in bowel habits or abdominal cramps, a similar percentage (12 per cent) was found to have polyps or carcinoma. From their observations they were able to state rather definitely that the early lesion, which is most amenable from the standpoint of treatment, frequently produces no symptoms to indicate its presence. Christianson and Tenner,[7] reporting from a cancer center which was designed specifically to serve apparently well persons age 45 and over and with no specific complaints, examined 2,226 new patients with the sigmoidoscope and found 274 (12.3 per cent) to have adenomas; 1,039 returned for reexamination and of these 74 (7.6 per cent) had adenomas. Young,[18] in routine proctosigmoidoscopic examination performed on 500 new adult patients who had had no complaints referable to the lower bowel, found 1 or more polyps in 44 (8.8 per cent), none of which was detected by digital examination; an actual cancer was found in 5 cases (1 per cent). Thus, approximately 10 per cent of patients had actual cancer or a precancerous lesion.

## SUMMARY

From reported observations one can state rather definitely that the early premalignant lesion, which is most amenable to treatment, frequently produces no symptoms to indicate its presence, is usually situated in that area of the bowel which can be viewed through the sigmoidoscope, and is not well visualized on the roentgen film; and it will be found in 1 of every 10 patients in the age bracket from 30 to 70 subjected to routine proctosigmoidoscopic examination whether symptoms referable to the large bowe are present or not.

The most important practical phase of the cance problem is early diagnosis, together with the eradica tion of premalignant lesions. The physician's mos valuable asset in the diagnosis of early cancer i eternal vigilance. Not only is this true of cancer o the rectum but also cancer of the stomach, the lung the breast, cervix, and other organs. It is this philos ophy which has encouraged the development of a series of cancer detection clinics in the United States the function of which is the examination of apparently healthy persons for the discovery of cancer in its early stages. It is well to stress the words "apparently healthy," for almost all cancers, if not all, are usually silent for variable periods of time; and when they manifest themselves, they are apt to simulate any one of a number of benign conditions. If we are to practice cancer prevention in cancer of the rectum, we must investigate routinely in the absence of symptoms, not when specifically indicated in the presence of symptoms. This philosophy will take out of the hands of the laity the responsibility of evaluating the importance of their own symptoms; at the same time it will leave no room for laxity and negligence on the part of the examining physician.

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# Cause and Care Of Extensive Rectal Fistulas

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EXTENSIVE rectal fistulas result from one of three conditions. The first and less frequent cause is the perforation of the rectal wall above the sphincter mechanism. This may result from the ingestion of a foreign body which pierces the rectal wall, external injury as a gunshot or stab wound, perforation by objects inserted into the rectum or the invasion of tumors, or infectious processes arising in the bowel wall.

The second cause is the improper drainage of an internal abscess. The general teaching is that an internal or supralevator abscess should be drained ex-

DR. WALTER A. FANSLER, *Clinical Professor of Surgery and Head of the Department of Proctology, University of Minnesota, was a special speaker at the 1955 Annual Session of the Texas Medical Association in Fort Worth. This paper was read for the Section on Surgery April 26.*

ternally through the ischiorectal fossa. This is the worst advice possible. The moment the abscess is drained in this manner there is a long fistulous tract extending from the point of external incision through the ischiorectal fossa and/or supralevator space into the rectum, thus necessitating the later division of the entire sphincteric mechanism. The proper drainage of such abscesses is internally through the rectal wall. The incision should be generous, and the lower end of the incision should be at the lowermost point of the abscess cavity. A crucial incision is best, and if necessary the abscess may be treated by saucerization of the tissue overlying the abscess cavity. This type of operation produces a broad flat wound, and if the tip of the index finger is occasionally inserted, the cavity will fill in completely without bridging over the surface.

The third and most frequent cause of extensive fistula is undue delay in the draining of perirectal abscesses. Patients hope the condition will clear up spontaneously and delay in seeing their physician, thus allowing the infection to spread more widely; or the physician seeing the patient early unwisely fails to drain the abscess at once but treats the condition with sitz baths, applications, and antibiotics. Such treatment is futile. Antibiotics may delay the formation of the abscess or cause its temporary regression but will not cure the condition, and in the meantime the pathologic changes become more extensive.

## TREATMENT

The only proper treatment for a perirectal or pararectal abscess is immediate incision for relief of the tension. To procrastinate only allows the abscess to become larger with a greater destruction of tissue. If it is neglected too long, the abscess usually will spread to the adjacent fossa via the space underneath the anococcygeal tendon, thus producing a horseshoe abscess and subsequent horseshoe fistula.

The prevention of an extensive fistula lies in the surgical drainage of the abscess while it is still small and while the destruction of tissue is still minimal. Drainage should be instituted even though the skin overlying the abscess is normal. If the index finger is inserted into the rectum and the perirectal tissues palpated between the tip of the finger and the thumb (bifinger palpation) and a tender indurated area can be felt, the physician may be sure that an abscess is present. This indurated area should be incised at once regardless of the normal appearing overlying skin. Drainage immediately stops further spread and enlargement of the abscess cavity.

It is preferable that the operation be done in a hospital under complete anesthesia. If the operation is done under hospital conditions, the internal or primary opening of the abscess frequently can be found and the operation for the abscess and fistula can be completed at once, thus obviating a second operation. If immediate hospitalization is impossible, the abscess should be incised in the physician's office to relieve tension and prevent spread. This can be done under local anesthesia or, where the pus is near the surface, simply by freezing with ethyl chloride. If this type of drainage is done, the patient should be told that a fistula probably is present and if so a secondary operation will be necessary. Such an external incision heals promptly, and the abscess will recur. For this reason the secondary operation should not be delayed unreasonably.

Extensive fistulas with shallow branching tracts present no serious problems other than the extent of the incisions. Usually there is only one primary opening, either in a crypt of Morgagni or in the anal canal, and only the external sphincter is involved in the process. Occasionally the tract may even pass externally to this muscle. It is only necessary to incise

thoroughly and to remove by saucerization the tracts. The resulting operative wound may appear formidable, but the ultimate result is good and there is no sphincteric impairment.

The second type of fistulas are those which necessitate the division of a sufficient portion of the sphincteric mechanism to produce incontinence. These fistulas usually are due to perforation of the bowel wall above the sphincteric muscle or in rare instances are caused from an external injury such as from an implement, a stab, or a gunshot wound which pierces the rectum. Other fistulas with the primary opening above the sphincters may occur from carcinoma, infection above strictured areas, or sinuses originating from infection in other organs. Fistulas in such instances are simply a complication of another lesion, and their treatment involves the care of the original condition and will not be discussed in this presentation.

There are two problems involved in the care of uncomplicated fistulas arising above the sphincter, namely, the cure of the fistula and the restoration of continence by repair of the sphincter mechanism. Previous to the antibiotic-sulfonamide era, it was frequently necessary to establish a temporary diverting colostomy before attempting deep sphincter repair. Now this is usually unnecessary, and in many instances the fistulectomy and muscle repair can be done as one operative procedure.

Preoperatively the patient is prepared as for colon resection, that is, with a low residue diet six or seven days preceding surgery together with Sulfasuxidine, 3 Gm. three or four times daily, and neomycin, 500 mg. four times a day, for two days preceding operation. Cleansing enemas of normal saline solution are given the evening before and the morning of operation.

The essential principle of the surgery is that the scar tissue caused by the fistula be removed and the muscle tissue be carefully identified and preserved.

The muscle should be thoroughly mobilized so the defect can be closed without tension. There must be complete mobility of the involved musculature. If because of tissue destruction or some other reason it is apparent that there may be some tension on the suture line, a little scar tissue should be left attached to the severed ends of the muscle. With this precaution the sutures are less likely to cut through than if they are placed through muscle tissue alone. Complete mobility is the greatest insurance of satisfactory healing and a good functional result. Approximation of the severed muscle is made with interrupted 000 forty day chromic gut sutures. A minimum number of sutures should be used and they should be drawn together just tightly enough to secure adequate approximation. Too many or too tightly tied sutures foster infection and produce strangulation and necrosis of tissue.

After care is important. Rather than confining the bowels so that the patient is almost certain eventually to pass some hard stool and perhaps disrupt the wound, the bowels are kept loose. The patient has been taking Sulfasuxidine, which usually produces soft stools. This is continued in sufficient amounts to insure daily soft bowel movements. Penicillin is usually given daily in 400,000 unit doses for the first seven or eight postoperative days, by which time danger of serious infection is passed and the muscles usually have united firmly.

The third type of fistula, and the one to which I wish especially to call attention, is that in which there is a great destruction of the deeper tissues, mainly the tissue of one or both of the ischiorectal fossae. To cure any fistula the tract must be divided completely through the internal opening and a wound created which will heal from the bottom outwards. If bridging occurs, a residual tract will be left. The proper way to prevent this bridging is by creating the proper type of wound. In all instances the wound which is created should be broad and flat. A deep narrow wound has a tendency to fall together in healing and frequently a sinus will result. Any wound which requires packing to prevent bridging is not an ideal wound.

In small superficial fistulas with little tissue destruction, producing a broad flat wound is a simple matter. In deep or horseshoe fistulas with a great destruction of the ischiorectal fat, the creation of a broad flat wound which does not tend to bridge is not so simple. The ischiorectal fossae are represented by two deep cones or pyramids with the apexes cephalad. These cavities are from 2 to 4 inches in depth and the bases are external. Such cavities will not heal unless their contour is flattened by saucerization. Fistulas of this nature require bold and radical surgery and nothing else will suffice. I wish to describe a procedure which will cure this type of fistula. When I have been led to try a lesser procedure, further surgery usually has been necessary.

The maneuver which will most adequately flatten these cavities adjacent to the rectum is the division of the anococcygeal tendon. The tendon, extending from the tip of the coccyx to the posterior aspect of the anal canal, holds the rectum and anal canal suspended between the ischiorectal fossae. This is dramatically illustrated when the fatty tissue of the ischiorectal fossae has been destroyed. When the anococcygeal tendon is divided, the anal canal and rectum retract upwards posteriorly toward the apex of the ischiorectal fossae. This creates the broad more shallow type of wound necessary to healing. Any overhanging or ragged fat in the fossae also should be removed further to shape up the wound. All or a portion of the skin which overlays the fossa

should be preserved. These skin flaps are then sutured into the lateral aspect of the wound. This procedure reduces the size of the cavity, further flattens it, shortens the time of healing, and lessens the deformity. In cases involving only one fossa, division of the anococcygeal tendon sometimes may be omitted, but I have found even in these cases the wound will heal more quickly if division is done. There is a certain amount of deformity following this type of operation as is the case in most operations for fistula. The function, however, is usually perfect and the deformity after healing is far less than would be expected.

Occasionally the short portion of the fistulous tract which passes under the sphincter muscle should not be divided at the time of primary operation. When the wound is especially extensive, division may produce extensive separation of the muscle ends. If this is thought likely to occur, a seton may be passed through the tract and tied about the remaining tissue. This is divided later after partial or complete healing of the major tract and cavity has occurred. This procedure lessens the degree of separation of the muscle tissue and insures greater continence.

## CONCLUSION

There is no routine operation satisfactory for all extensive fistulas, but the principle of saucerization and the procedures outlined in this paper provide a satisfactory basic approach.

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**University of Texas Helps Sponsor Symposium on Vitamin Metabolism**

The University of Texas, Austin, and the National Vitamin Foundation presented a Symposium on Vitamin Metabolism early in March in New York, in conjunction with the annual meeting of the foundation. Esmond E. Snell, Ph. D., professor of chemistry at the University of Texas, was chairman for the program, and Lester J. Reed, Ph. D., associate professor of chemistry and Biochemical Institute research scientist, led a discussion on the metabolism of lipoic acid.

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In addition to technical knowledge and skill the physician needs a philosophy of the first rate—character, integrity, conscientiousness, humanity, and a love for the practice of medicine. In the cure and alleviation of the physical and mental ills of mankind, the physician requires an appreciation of the psychological, environmental, social, and economic problems, as well as the physical problems, of his patients.—Ernest E. Irons, M. D., Medical Education Looks at General Education and the Universities, J.A.M.A., Oct. 8, 1955.

# Tantalum Mesh In Abdominal Wall Repair

**JAMES E. PRIDGEN, M. D., F.A.C.S.**

*San Antonio, Texas*

TANTALUM mesh was first used in orthopedic surgery by Burch and Carney in 1942.[1] It now has been used successfully for more than ten years in general surgery in sufficient quantity, with adequate follow-up studies, to give it a secure position in hernia repair. This is ample time for the proper technique in the application of the mesh to be well understood and for its indications to become crystallized. Its advantages over stainless steel and Surgaloy mesh are that it is unusually pliable and that it is electro-

DR. JAMES E. PRIDGEN *presented this paper before the Texas Surgical Society, October 4, 1954, in Galveston.*

passive in the tissue, being a single metal. The other meshes are alloy and therefore cause more electro-activity and consequently more tissue reaction.[2, 4] The disadvantages of tantalum mesh are that it fragments sooner than Surgaloy and that it is about twice as expensive as Surgaloy and four times the price of stainless steel mesh. Hernias have been reported through this fragmented area but are extremely uncommon[3] because this mesh is completely covered with fibrous tissue before any fragmentation occurs.

In the utilization of tantalum or other types of mesh in the repair of the abdominal defect, the mesh must be applied in such a manner that it overlies the fascial defect by 1 inch or more at all points. Interrupted, nonabsorbable sutures should be used and placed about .5 inch apart. Wire sutures should be used in the presence of infection because silk or cotton sutures may cause draining sinuses. The soft tissue closure over the mesh should be more than skin. It should contain an adequate amount of fat and subcutaneous tissue in addition to the skin. If the wound

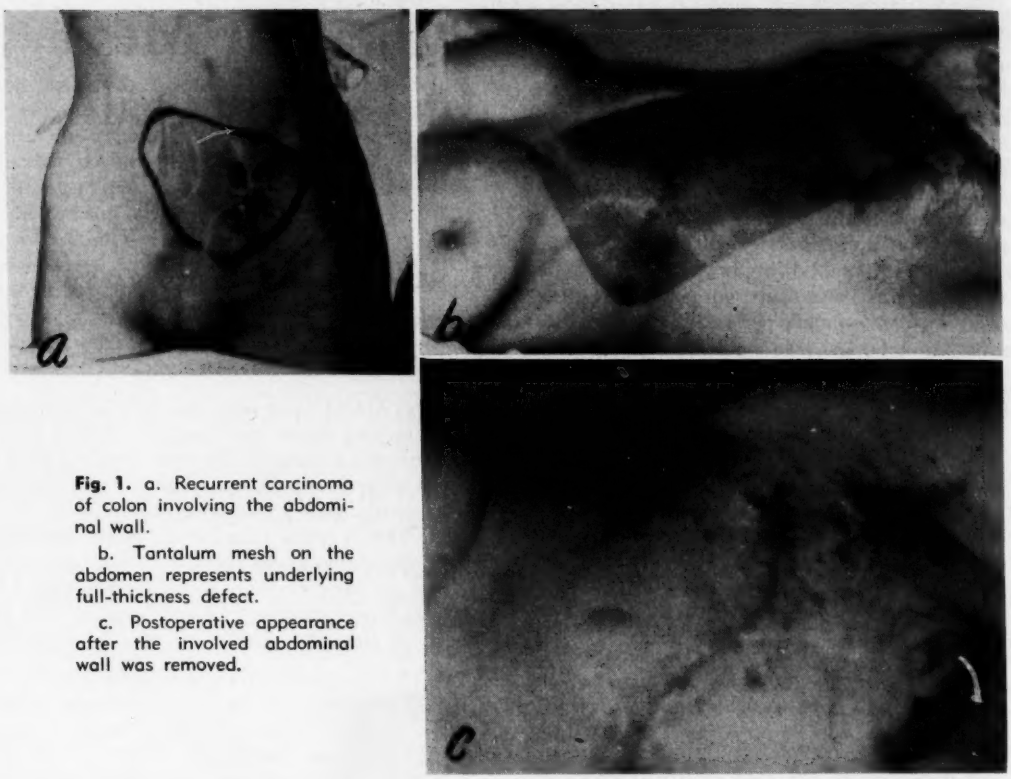

**Fig. 1.** a. Recurrent carcinoma of colon involving the abdominal wall.

b. Tantalum mesh on the abdomen represents underlying full-thickness defect.

c. Postoperative appearance after the involved abdominal wall was removed.

is large, tissue drains and catheters should be utilized under the soft tissue closure for several days to drain off any possible collection of tissue fluid.

The primary indications for the use of tantalum mesh in abdominal wall repair are few; the mesh is used under circumstances in which other methods of hernia repair can be utilized only with great difficulty. The relative indications for the use of tantalum mesh are many and consist of circumstances in which other methods of hernia repair can be relatively easily substituted for the use of tantalum or other mesh repair.

## ILLUSTRATIVE CASES

Tantalum mesh has been used in abdominal wall repair in this series in 5 cases. The first 3 cases represent the primary indications for the use of tantalum mesh in abdominal wall repair; the last 2 cases represent only relative indications. They are as follows:

Case 1.—To replace the abdominal wall following its removal for large carcinomatous involvement.

An interesting patient was a woman 60 years of age with recurrent carcinoma of the colon which involved a large part of the left abdominal wall (fig. 1a). After resection of the involved colon, a full-thickness area of left abdominal wall, 5 by 11 inches, was removed (fig. 1b). The

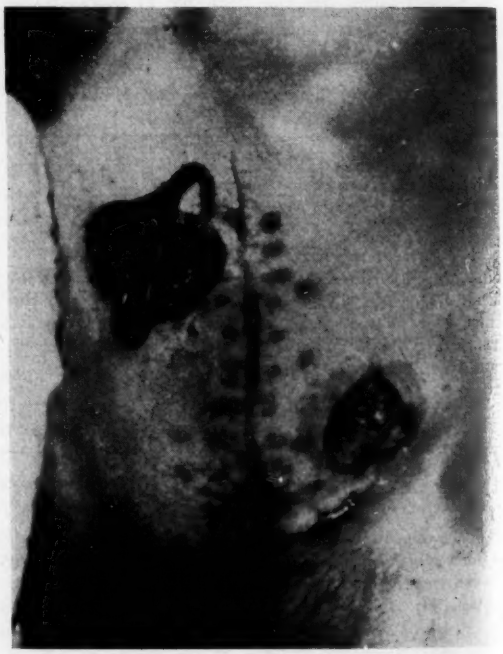

**Fig. 2.** Abdomen with two colostomies and one intestinal fistula with infected wound.

ontinuity of the bowel was reestablished, but the peri-oneum could not be closed. The full size tantalum mesh, 6 by 12 inches, just covered the fascial defect. The skin in-cision was about 16 inches long and the edges were under-mined over both hips and on the back, bilaterally. With additional bilateral relaxing incisions, the wound was closed (fig. 1c). The patient had no subsequent wound difficulty.

Case 4.—To repair a large umbilical hernia in an obese patient with poor fascia.

One of the early cases was an obese, middle-aged woman with a large umbilical hernia. She had remarkably poor fascia with a sizable defect. After a Mayo type of hernia repair was done a full sheet, 6 by 12 inches, of tantalum mesh was used as an onlay graft to reinforce this thinned out fascia. A four-year follow-up reveals that she is doing well (fig. 4).

**Fig. 3.** a. A 5 by 6 inch full-thickness ulcer with actinodermatitis of the entire abdominal wall.

b. Tantalum mesh in the fascial defect with pedicle flaps elevated.

c. Postoperative appearance of the abdominal wall.

Case 2.—To replace a full-thickness defect of abdominal wall in the presence of infection.

In another case, tantalum mesh was successfully used in the presence of infection to reinforce a fascial closure under tension where there had been a traumatic loss of tissue due to a gunshot wound. The patient's defect was near a colostomy and also near two intestinal fistulas (fig. 2). These were all eventually closed and the patient has had a strong abdominal wall for two years.

Case 3.—To replace the abdominal wall following removal of a large, postirradiative ulcer.

A case which has no parallel in the literature on satisfactory wound healing under adverse circumstances is one with a large, full-thickness, infected, postirradiation ulcer of the abdominal wall (fig. 3a). The soft tissue of the entire abdominal wall was replaced with a pedicle 8 by 21 inches in size, from the left thigh. The peritoneum could not be closed and the fascial defect, 5 by 6 inches in size, was closed with tantalum mesh (fig. 3b). The patient had no subsequent difficulty after a draining sinus closed (fig. 3c). She later died of carcinoma of the lung, and at autopsy the mesh was well encapsulated and no adhesions were present.

Case 5.—To repair a large, recurrent, direct, inguinal hernia in a patient 90 years of age.

The final type of case in which mesh was successfully used was the repair of a recurrent, direct, inguinal hernia in a man 90 years of age. In this situation, the problem is similar to the repair of a large ventral hernia in a patient with poor tissues.

## COMMENT

Free grafts of fascia, cutis grafts, or skin, and pedicle flaps of fascia or musculo-fascial tissue can be used in the repair of large defects in the fascial level of the abdominal wall. They have been used successfully in circumstances in which the peritoneum can be closed and there is no infection. Tantalum mesh, stainless steel mesh, Surgaloy, Fortisan, liophilized fascia, liophilized dura mater,[5] and other materials also can be used here. Their advantages are the

omission of the second operation to secure the graft and the elimination of a second wound.

On the other hand, in cases with unusually large full-thickness abdominal wall defects in which the peritoneum cannot be closed or in cases in which infection is present, tantalum mesh, Surgaloy, or stainless steel will give the best results. It would be hazardous to try to use a tissue graft in the presence of infection; and if the peritoneum could not be closed

**Fig. 4.** Large umbilical hernia in an obese patient with poor fascia.

over an unusually large defect, intestinal adhesions would be considerable. Wire sutures should be used in the presence of infection rather than other nonabsorbable suture material.

The advantages and disadvantages of tantalum mesh, steel, and Surgaloy have been mentioned. Actually, these materials can be used interchangeably.

## SUMMARY

Five brief case histories have been given, demonstrating the successful uses of tantalum mesh in abdominal wall repair. The primary indications for the use of tantalum mesh or stainless steel mesh in abdominal wall repair are in the reconstruction of a 4 by 4 inch or larger, full-thickness defect of the abdominal wall which occurs under three adverse circumstances, namely, (1) where infection is present, (2) where the peritoneum cannot be closed, or (3) where there has been severe postirradiation damage involving a large part of the abdominal wall. The relative indications for the use of mesh in abdominal wall repair are many; they are present where additional support is needed and the surgeon prefers not to secure an autogenous graft for this purpose.

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# Skin Grafting In Reconstructive Surgery

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EARLY and permanent surfacing of cutaneous defects with autogenous skin grafts conserves health, function, time, and expense. Unnecessary waiting prior to definitive surgery spells economic waste and delayed rehabilitation.

Indications for the use of skin grafts in reconstructive surgery vary, depending upon the type and location of the injury, size of the defect, and the age and

DR. SANFORD GLANZ *presented this paper before the Section on Surgery, Texas Medical Association, Annual Session, Fort Worth, April 25, 1955.*

over-all condition of the patient. The choice of a skin graft over primary closure is determined by the lack of adequate soft tissue to accomplish a satisfactory functional and cosmetic result. These concepts apply equally in the definitive treatment of burns, thermal or chemical, soft tissue traumas, surgical defects following excision of tumors, and irradiation injuries.

There are numerous factors to be considered in selecting the type of graft to be used, including thick-

ness, color match, texture, and donor site. A split-skin graft can be obtained relatively easily with little damage to the area from which it is cut. The "take" is almost certain and such a graft gives good protection with an acceptable final appearance. The full-thickness or Wolfe graft is appropriate where a freshly made clean raw surface is to be covered. The final result will effect substantial protection, greater mobility with minimum subsequent contracture, and a more natural appearance. Homogenous skin grafts are essentially temporary physiologic skin dressings. They are employed as a life-saving measure when immediate autogenous skin grafting is not feasible.

The selection of a donor site for all types of grafts is significant in any skin grafting procedure. An unwise choice may produce further disfiguring, visible scars. Moreover, the color and texture of the graft should compare favorably insofar as possible with the surrounding skin of the recipient area, and the graft thickness should be adequate to assure good functional rehabilitation.

## BURN INJURIES

The prime objective in the initial surgical therapy of full-thickness burns is to obtain skin coverage as early as possible following injury. Prompt grafting will prevent excessive loss of proteins and electrolytes, maintain nutrition, obviate infection, and minimize eventual scarring and contracture.[2]

The autogenous split graft includes little more than the epithelial layer and gives the greatest diversity of practical usefulness. This type of graft will take satisfactorily on a relatively clean granulating burn wound, even when the patient does not have the benefit of good physiologic stability. Figure 1 illustrates the use of thin split grafts in the primary coverage of third degree burns of a 5 year old child. Thin split-skin grafts, ranging from .010 to .014 inch in thickness, are used when extensive granulating wounds and limited donor areas necessitate repeated grafting procedures to accomplish complete coverage. Such grafts have the greatest assurance of "take," and they also permit reuse of the same donor areas after short intervals of healing. Further advantage of the thin split graft in covering large granulating surfaces is obtained by cutting the sheet graft into small triangles which are applied at close intervals.[6] This maneuver enables coverage of approximately two or more times the surface area of the same size graft used as a single sheet. Use of the thin graft in any of its variations may necessitate later reparative surgery to accomplish a better definitive result. Its value, however, in immediate coverage of extensive soft tissue loss should not be underestimated.

Split grafts of intermediate and thick calibration are used to cover smaller granulating wounds, particularly on the extremities where definitive coverage and protection is desired. Figure 2 illustrates intermediate thickness grafts applied to the foot following an aluminum molten metal burn. In such a case, the initial graft is thick enough to give adequate coverage, protection, and flexibility.

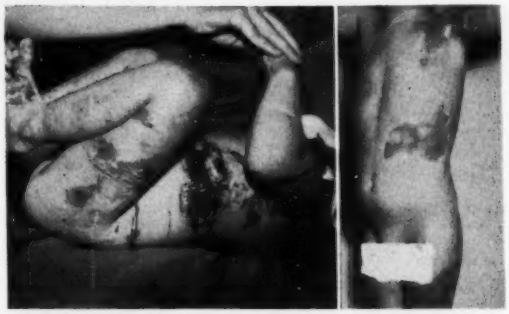

**Fig. 1.** Left. Granulating wounds following third degree gasoline burns, 21 days post-injury.

Right. One month after application of thin split-skin grafts to shoulder, chest, and thigh.

Large granulating burn wounds that endanger the patient's life are often temporarily covered with homografts, that is, skin from another person.[12, 13] Homogenous grafts serve as a physiologic dressing and help to maintain general nutritional balance. It should be emphasized, however, that this is only a temporary therapeutic measure as dissolution of these

**Fig. 2.** Left. Molten metal burns of ankle and foot, lateral view. Injury was caused by the shoe filling with melted aluminum.

Right. Wounds completely healed one month after application of dermatome sheet grafts of intermediate thickness. Note the graft patterns to avoid vertical scar line contractures.

grafts occurs in 6 to 10 weeks after application, except in the transfer of skin between identical twins.

Secondary burn scar contractures are frequently the sequelae of severe third degree burns involving areas of motion, particularly about the extremities.[7, 14] Scarring and contracture also will result from infection or deep second degree burns which have been

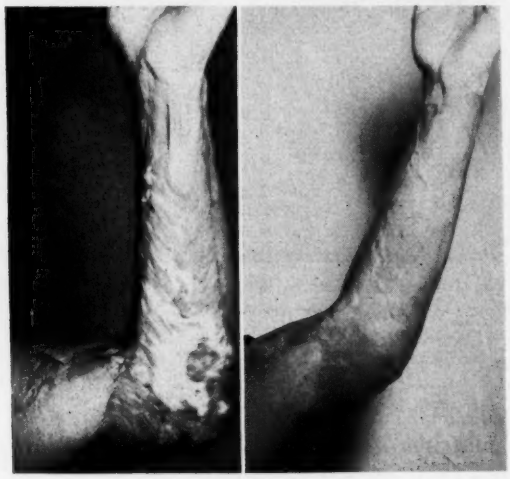

**Fig. 3.** Left. Burn scar contracture of arm two years following spontaneous healing of flame injury. Scarring seriously limited motion of the elbow and wrist. The antecubital space was ulcerated and painful.

Right. Postoperative view six months after excision of the entire scarred area and resurfacing of the arm with thick split dermatome grafts.

allowed to heal spontaneously. In the reconstruction of secondary scar contractures thick split or full-thickness skin grafts should be employed to achieve a good final result. Complete excision of scar tissue is advisable whenever possible with replacement by a durable skin coverage. Figure 3 illustrates the use of thick split-skin grafts to resurface the arm following the excision of contracted burn scar epithelium. This type of graft also can be used in the reconstruction of a contracted breast where scar bands can be released and anatomic contour restored. Where the reconstruction of surface defects requires deep tissue replacement, the transposition of local or distant pedicle flaps may be indicated.[1] The skin graft, however, is still a useful adjunct when used in combination with pedunculated flaps in these reparative procedures.

Full-thickness grafts find their greatest value in the reconstruction of relatively small defects of the face and hands.[5] However, this type of transplant requires exacting technique and optimum conditions for a successful "take" and hence has a limited field of usefulness. The graft has a greater susceptibility to infection which endangers growth, and the donor site requires closure by split graft or apposition of adjacent edges. In severe ectropion of the eyelids, full-thickness grafts prove ideal replacement tissue after the cicatricial contracture has been excised. Likewise, defects about the lips and nasolabial folds can be repaired similarly. One can expect the optimum cosmetic and functional result because the entire elastic fiber layer is included, and when properly selected, these grafts manifest the best color and texture match to the face and neck. The application of full-thickness grafts in the reconstruction of facial chemical burns is demonstrated in figure 4. The donor sites selected for texture and color match were the postauricular and supraclavicular regions where mobilization of adjacent tissues allowed primary and concealed closures.

**Fig. 4.** Left. Lye burns of the face with contracture which prevented proper closure of the lower eyelid and upper lip.

Right. Deformity corrected by excision of the scar and resurfacing with full-thickness skin grafts from bilateral postauricular donor sites.

## TRAUMATIC SOFT TISSUE WOUNDS

With the hazards of modern machines, industry, and wars, surgeons have had to overcome increased problems of soft tissue traumas. Current tendency is to avoid extensive multiple procedures involving distant pedunculated flaps and to employ free skin transplants wherever possible. In certain types of avulsion wounds, primary skin grafts may be applied almost immediately to prevent infection, decrease morbidity, and accomplish early and satisfactory rehabilitation.

Severe scalp avulsions can be treated successfully with skin grafts concomitant with pedicle transposition at the time of injury.[8] This is most commonly

seen in the abrasive pavement injury following auto accidents. If these defects are not covered immediately the areas involving denuded bone soon become necrotic and require extensive reparative measures, such as drilling holes in the outer table, to obtain a granulating surface for later successful grafting. Immediate closure permits the transposition of a pedicle flap over the freshly denuded bone with a skin graft to the pedicle donor area. In simple avulsions where the bone is not denuded, a free graft may be directly applied.

Avulsions of the face, neck, and trunk also can be treated with early skin transplantation, using grafts of intermediate thickness. Prompt skin coverage of the wounds is particularly valuable when the extremities are involved in order to safeguard functional rehabilitation. Industrial injuries of the hand often produce avulsion of soft tissue, especially of the digits. The application of a split graft cut from the arm, chest, or thigh may obviate the necessity of digital amputation when adequate skin is not present for closure. The choice of a thick graft is important here to meet the requirements of durability and flexibility as well as to prevent graft shrinkage and contracture. Illustrations of a toe avulsion that was closed by primary grafting rather than amputation are seen in figure 5. The use of an intermediate thickness split graft to cover a granulating amputation stump of the upper extremity is demonstrated in figure 6. In this case shrinkage of the thinner graft was calculated to help stretch adjacent skin over the stump and so have a more durable coverage for the use of a prosthesis.

**Fig. 5.** Left. Amputation of the end of the great toe by a bicycle wheel spoke resulting in partial loss of the distal phalanx.

Right. Repair showing satisfactory closure with thick split graft.

## DEFECTS AFTER NEOPLASTIC EXCISION

Neoplastic cutaneous lesions occur in various degrees and require different methods of treatment depending upon their diagnosis and location. Benign tumors may be excised with a minimal removal of normal tissue. Skin graft coverage of the remaining defect is necessary only when the tumor itself is of such a size as to prohibit primary closure following excision.

Two common benign tumors, most often seen in children, are hemangiomas and pigmented nevi. A "wait and see" policy with regard to these growths may be fraught with disappointment because of their expansive nature. Destructive rapidly growing arterial hemangiomas, starting from one small area, can destroy or distort normal features. Early excision and grafting will maintain contour and anatomy with far

**Fig. 6.** Left. Upper extremity granulating amputation stump with elbow joint intact.

Right. Stump covered with intermediate thickness graft. Observe the desired shrinkage of the graft and drawing of adjacent skin distally to give a durable surface for prosthesis.

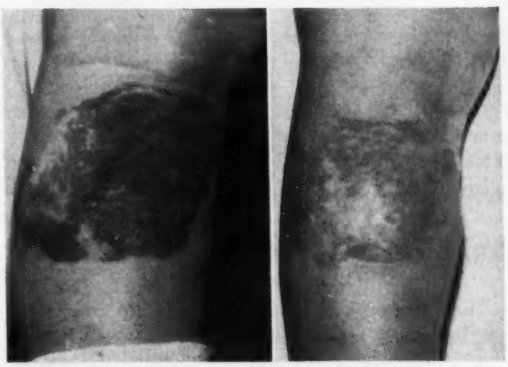

**Fig. 7.** Left. Rapidly growing hemangioma over the lower extremity.

Right. Postoperative view showing adequate excision of the hemangioma and resurfacing of the defect with a patterned thick split graft.

less disfigurement.[8] Figure 7 illustrates a hemangioma that started with a relatively small bright red spot and spread rapidly to cover the posterior surface of the leg. This was widely excised and the defect covered with a thick split-skin graft in one procedure.

Excision of a pigmented nevus is important because of appearance as well as the possibility of future malignant changes. These tumors are not sensitive to radiation and will not respond to any treatment other than surgery. With increase in age, the pigmented nevi may become thicker, and more prominent areas may develop and display neoplastic changes. Treatment, therefore, should consist of early surgical excision and replacement with normal skin.

Malignant tumor masses require wide and complete excision with secondary consideration given to possible disfigurement.[11] Following microscopic assurance of complete removal, however, all efforts should be made to restore a normal appearance. One of the main advantages in using skin grafts following the excision of malignant tumors is the opportunity to delay closure until permanent pathologic slides confirm adequate removal. During this time the open wound may be maintained under sterile wet or dry

**Fig. 8.** Left. Recurrent epithelioma of the preauricular region.

Right. Wide excision of the lesion determined by histopathologic studies and the extensive defect covered with thick split graft.

dressings. Final closure is then effected with an appropriate skin graft. Figure 8 demonstrates the use of a thick split graft to cover a facial defect following the adequate excision of a cutaneous neoplasm.

## IRRADIATION INJURIES

There are on various occasions certain irradiation injuries which ultimately require reparative measures.[9] This may be due in part to excessive roentgen-ray administration, but these injuries may also be an incidental by-product of necessary extensive therapy given for deep or inoperable carcinoma. Whatever the cause, the essential pathologic findings in the affected areas, namely, endarteritis, telangiectasia, and keratosis, eventually may result in necrosis and ultimate degeneration into cutaneous carcinoma. The lesions often produce pain and intense itching that cannot be relieved permanently until the damaged areas are removed. Following excision the open defect is covered with a split-skin graft or pedicle flap, and cessation of subjective symptoms results. When vital structures such as bones, joints, tendons, and nerves are exposed, closure by local or distant pedicle flaps may be necessary.

Total excision of irradiated damaged tissue should be performed when the initial inflammation has subsided. If any of the affected areas are allowed to remain, further breakdown will occur and might also result in the loss of the replacement skin graft or flap. Figure 9 illustrates an irradiation injury of 7

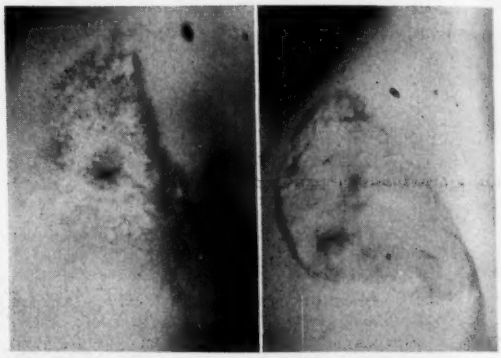

**Fig. 9.** Left. Actinodermatitis of the shoulder seven years following irradiation for keloidal scar deformity.

Right. The shoulder resurfaced with thick split graft after adequate excision of involved tissues.

years' duration following therapy for a keloidal burn scar of the shoulder. This was excised to its full depth and replaced by an appropriate thick split graft in one operative procedure.

## DISCUSSION

The success of all skin grafting procedures, irrespective of the indications for their use, depends upon the preoperative and postoperative treatment as well as the surgical technique employed. Preoperative and supplementary care should assure the nutritional stability of the patient to increase healing potentialities. Local preoperative therapy includes frequently changed moist dressings to promote drainage of the wound and, occasionally, biological or surgical debridement of necrotic tissue.[10] A granulating surface that is firm, bright red, and free from surrounding inflammation or induration presents the optimum condition for the growth of a skin graft.

Surgical technique in skin grafting procedures is

been facilitated in recent years with the advent of improved dermatome instruments for cutting grafts. Freehand grafts are still employed successfully, but dermatome grafts are generally more consistent in thickness, size, and shape, allowing a more universal use of sheet grafts in massive coverage of soft tissue defects. These grafts also can be patterned to the exact dimensions of the defect with the use of nylon backing.[4] Other important factors to be considered in the actual surgical technique are the application and immobilization of the graft with adequate compression dressings and splinting as necessary.

In the postoperative care of skin grafts, the first dressing is undertaken in five to seven days. Wet dressing irrigations may be employed depending upon the "take" and condition of the graft. Sutures are removed alternately at the first and subsequent dressings. Irrigations are discontinued when drainage has ceased. Dry protective dressings are then applied until the grafted areas can be exposed without danger of infection. Lubricants will further maintain pliability of the transplant and prevent drying or desquamation of the skin graft before normal sebaceous gland activity is restored.

Functional rehabilitation after surgical repair is important in completing any reconstructive procedure. Physical and occupational therapy will produce immeasurable improvement in the surgical result. Passive and active motion are effective in restoring normal function, particularly where areas of mobility have been impaired.

## SUMMARY

Various uses of skin grafts in reconstructive surgery have been described. The indications for skin grafting as presented include thermal and chemical burns, secondary scar contractures, soft tissue traumas, neoplastic excisional defects, and irradiation injuries. The discussion covers the pertinent factors in surgical technique as well as preoperative and postoperative care. The principles of skin grafting are stressed in advocating a wider and more satisfactory use of these transplants in the restoration of normal anatomic function and appearance following injury.

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# Big Government Makes Little People

**CLARENCE MANION**

***South Bend, Indiana***

IN ORDER to treat this subject adequately, all I need to do is to compliment the medical profession upon the effort it has made to rectify wrongs which nevertheless have multiplied, and to tell you that we never, never will rectify any small percentage of these until you manage to control a disease worse

CLARENCE MANION, *former dean of the College of Law at the University of Notre Dame, presented this address as a part of the Texas Medical Association's Symposium on Legislation, January 21, 1955, in Austin.*

than cancer, polio, tuberculosis, or anything that has struck us physically in our lifetime. That disease is the universal plague of malignant complacency that has overcome the people of this country.

The symptoms of this disease are highlighted by a report of the futile efforts made by some of your

colleagues to obtain an expression from a United States senator. This senator, like many others in and out of Congress, relies upon the complacency of the people to blanket and snuff out the vigilance that you manifest.

I talked to a reporter about what I am going to tell you. He said, "Mr. Manion, if you say that, people are going to call you an alarmist."

I said, "So what? Paul Revere was an alarmist. The men who wrote the Declaration of Independence and the Constitution of the United States were not merely alarmists; they were alarmed. They implemented their alarm with very important works, as did the fellows who disguised themselves as Indians at the Boston Tea Party."

I do not know how many alarms will have to be sounded until the American people wake up. I read a very interesting book a few weeks ago. It is called "A Night to Remember." I recommend it. The night was April 14, 1912. A little ship, the "Californian," was anchored in the North Atlantic, stopped because of floating ice. Twenty miles away, steaming toward the "Californian" at 22½ knots an hour, was the most luxurious ocean liner that ever had been constructed. It was filled with rich, happy, spectacular people. When they boarded at Southampton, they were assured that God himself could not sink the "Titanic"; it was unsinkable. It was the finest, sleekest, most luxurious ship afloat.

Throughout that memorable day, the captain of the "Titanic" received six wireless warnings to look out for icebergs. He disregarded them. Perhaps speed was the reason, for he did not want to slow down. At 11 p. m., a wireless operator on the little "Californian" wired the "Titanic" again—"Look out for icebergs." The operator on the "Titanic," speeding forward with the orchestras playing, the bars open, and the people dancing, wired back, "Shut up, I'm busy."

Thirty minutes later, in seas like polished glass, the "Titanic" struck an iceberg and sank, carrying more than 1,500 souls.

I wonder if there is anything significant about that. We have the most remarkable "ship of state" that the world has ever seen. We have attained speeds and luxuries unparalleled in history. The seas that stretch before our "ship of state" now are like polished glass; people have never seen them so smooth. Yet there are alarms just as essential to the life of America as those alarms were to the life of the "Titanic" and all on board. We continue to disregard them. The most important project that you have is to grab the American people and wake them before it is too late.

There are many alarm clocks you could use. There is a book, published by Human Events, which is a digest of the Hoover reports. Neither you, nor I, nor anybody else, is going to read all of the more than 100 Hoover Commission reports, but the publishers of Human Events have digested and made a compendium of these reports in a small volume which should be in every doctor's office. Some of its disclosures are literally unbelievable. It has been called the "book of one million facts." One of the facts officially disclosed for the first time in the Hoover reports is that the federal government owns one-fourth of all land in the continental United States. There are many more such revealing facts; for instance, the Hoover Commission found 100,000,000 square feet of office space which the federal government did not know it had.

Seven and one-half billion dollars of annual expense could be saved without curtailing one item of our national defense—without doing anything but improving, streamlining, and making more efficient the official departments of the government. Hundreds of millions of dollars could be raked off the national debt by the sale of more than $30,000,000,000 worth of federally operated, otherwise private industry. If you want to see how the complacency and the resistance of the government works, turn to the editorial page of a recent *Life* magazine and read the story of the rope walk in Massachusetts, which was established by Andrew Jackson, was ordered closed a dozen times, but still exists, making rope for nonexistent sailing ships.

That you should pay for this while the Bureau of Internal Revenue asks to look over your last income tax return is ever so serious. If the economies proposed by Herbert Hoover were put into effect, your personal income tax could be cut 25 per cent. We are going to balance the budget next year, we are told. With what? By the application of the Hoover recommendation? No! By additional revenue anticipated from the increased prosperity of the country. Not one dollar less, but a billion and a half more will be spent. Still we are told that the budget will be balanced—because you are going to make more money. You will pay more income tax next year than you did last year. That is not balancing the budget; that is insulting the American people, but we have passed the point of insult. Yet the seas never have been so smooth, and the prospect for continued complacent prosperity never has been so bright.

We had best wake up. Some of us have waked up—wide awake—people like me who thought that the 1952 election had reversed the trend toward socialism in this country. Those who still think so are living in a fools' paradise.

Socialism in this country has progressed at an accelerated rate since 1952. It looms up far more dangerously now than it did then. Why? Because we had for President of the United States in 1952 a man whose vetoes were sure to be overriden by an

antagonistic Congress. Now we have a man who is held in universal respect, whose words are wisdom itself, and who has attained a degree of popularity unprecedented in the history of this country, but whose recommendations are more directly socialistic than any that Harry S. Truman ever made. I know that this is somewhat alarming, slightly unprecedented, and perhaps unpolitic, but I do not intend to tell you anything but the truth as I see it.

## SOCIAL SECURITY AND SOCIALISM

I have delivered several broadcasts on the subject of social security, each of which has been sent to the Secretary of Health, Education, and Welfare, who superintends this monstrosity. I literally have begged for repudiation of the wholesale indictment of the system as broad duplicity and cruelty. I asked him questions sent to me by a listener; the questions were these: Is old age and survivors' insurance really insurance? If it is insurance, what are its actuarial features and what is the status of its actuarial fund? If it is not insurance, as many contend, but merely an expenditure for the general welfare of the country, why is it not paid for out of the general fund of the United States rather than assessed against the payroll of the lowest paid segment of our working population? (That is like asking a man whether or not he has stopped beating his wife. All the literature of the OASI calls this an insurance system. That is, of course, a travesty. It is not an insurance system; it is not a quid pro quo; it is not a contract; it is not voluntary; it is not actuarial.) I made a statement in one of my broadcasts that it would take $75,000,000,000 funded to this moment to care properly for those now receiving OASI and disability benefits until they die. I got that figure from a group of actuaries in whose compilation I have great confidence, and that figure was given to the Curtis Commission.

I got an answer from the chief actuary in the OASI. He said: "Of course, I disagree with what you said about our system, Mr. Manion. There is one figure I am interested in. You said that we would have to have a fund of $75,000,000,000 to take care of those who now are receiving OASI aid." He added that he did not think it would take $75,000,000,000 and that he figured about $35,000,000,000 would take care of those receiving aid. He said that at a time when OASI had, for all purposes, but $21,000,000,000. Any jury that I have faced in my legal life would not waste 30 minutes in bringing in a verdict of guilty—of fraud, deceptions, and deceit. Why does it take Congress so long to see the obvious? The man admits that he has only half the amount in the fund that it would take to cover present expenditures. This is not insurance; it simply is something to pacify and make secure and happy the old, disabled people of the country.

We have decided to make the farmers happy; we have decided to make Mr. Nehru happy; Marshal Tito was made happy; we even offered to make Stalin happy, but he would not have any of it. This happiness comes out of the general fund of the United States. The general welfare comes from the general fund. There may be some rhyme to that procedure even if there is no reason for it. But when we arrange to make all old and disabled people happy, we bypass the general fund, levy a public assessment, and direct that it be withheld from the first $4,200 of wages of people who are included in the social security plan. Does that make sense? The man who makes $4,200 and starts to pay his regular income tax subtracts his wife, his children, his charitable contributions, all his exemptions. He finally ends up making a very modest income tax payment. But out of the $4,200 payroll there aren't any deductions before payments are siphoned off for social security benefits. I think that is cruel, deceptive, and criminal, and I have said so on every occasion. My frustration is that I cannot persuade anyone in the Department of Health, Education, and Welfare to deny it. We are faced with a tremendous conspiracy. It is not just social security that interests you doctors but the fact that politically, socialized medicine has been on the program of the welfare state from the very beginning. Through the side door of social security amendments, a great deal more political medicine is going to enter.

I discussed this social security question with one of the highest officials in Washington, D. C. His comment was, "Social security? No, you are wrong about that. There is a $21,000,000,000 fund for that. I don't know whether or not it is any good, but we have to bring all the people into it because they demand to be brought into it." It is discouraging when logic and reason assault high places in vain. But the main thing to recognize is this: you cannot defeat the socialization of medicine, nor of agriculture, nor of law, nor of utilities. You can only defeat socialism per se.

What is socialism? Socialism is the expansion of the government to the point where it comprehends jurisdiction, ownership, and regulation of everybody, everywhere in the community. Naturally, it takes one step at a time. If it steps into the field of medicine today, it is only because it is more convenient than it would be to step into the field of agriculture or electric power, but their turn will come tomorrow. Socialism is big government. The first by-product of big government is little people. Someone has said shrewdly that where the state swells, the people shrink in exactly the same proportion. It is inevitable, and

we can see that operating in this country. The people are far less vigilant, far less comprehensive of political problems and political threats than they were 25 years ago when the threats were much smaller and much less ominous.

You men of medicine undoubtedly can find some biological parallel which I could use, but I know that when anything swells, there is some underlying disorganization, and the swelling of government is no exception. It betokens an illness in the body politic which has to be cured if it is to be corrected.

The trouble with all of us is that we usually are so close to the trees that we can't see the woods. We have our beanshooters adjusted on our own particular problem and project. I find it in the men in my own law office. They walk out on me as soon as I get away from the tree. When I begin to generalize, they leave. They want to know what to do about Cause No. 166, or changing a venue, or filing an answer. They want particularization. We must get perspective even though we lose money, and perhaps time, in the process.

George Washington said that government is like fire, a dangerous servant and a fearful master. He was right. Fire is a useful thing when it is properly contained, checked, balanced, and held in place in the cookstove or within the blast furnace. There fire is a great civilizing agent; there, fire is a humanizing, progressive, helpful institution—fire is at the very root of progress, perhaps the most helpful force on earth. Fire likewise is the most dangerous and destructive thing on earth when it leaps those bounds. Fire is the big cleanup man in every one of the world's catastrophes, whether it be Hiroshima or San Francisco. Fire is the thing that walks in and wipes out the remnants.

Government, as Washington said, is like fire. The founding fathers took this fire of government and tied it down behind the strong wall of the constitutional system; they put it in 48 states; they further subdivided it into local communities. They did that for a definite reason: to increase the inefficiency of government. The most efficient government I can imagine is an absolute dictatorship. There was no inefficiency in Joseph Stalin's management of Soviet Russia, nor in Hitler's control of Germany. The more inefficiency you find in government, the more liberty there is among the people.

Government has a useful purpose. Thomas Jefferson said in his first inaugural address, I believe, that the objective of our system is a wise and frugal government which will restrain men from injuring one another and which will leave them otherwise free to follow the pursuit of industry and happiness, and which will not take from the mouth of labor the bread that it has earned. I wonder what Jefferson would have thought of the withholding deduction for the fraud and criminality of social security. I wonder how many so-called Jeffersonian Democrats read those words of Jefferson and reconcile their votes for the continuity and expansion of this system with the philosophy of Thomas Jefferson.

In the court of public opinion this thing has to be fought. But first let us recognize it for what it is. I often have wondered why it is that the people who favor, for instance, federal aid to education are invariably the same people who favor federal abolition of the state right-to-work laws. The same people vote for limitless worldwide WPA in the form of foreign aid. Those same people always are for the extension of social security. The congressman will tell you, "We have 100 pressure groups in Wash-

## *WHAT THEY SAID—*

**Some quotations from the Symposium on Legislation sponsored by the Texas Medical Association in Austin, January 21, 1956:**

If enacted into law, H.R. 7225 would provide the framework for socialization of medicine in several easy steps. . . . communications should insist upon a complete, unbiased, and comprehensive study of social security before any provisions for broadening coverage are considered.—G. W. Cleveland, M. D., Austin.

Compulsory social security coverage carries with it the definite implication that we are not wise enough to provide for our own later years. . . . Let us work to keep at least one small segment of the population of this country outside the control of this socialistic taxing system. Perhaps our efforts will stand as an inspiration to others to protect their individual freedoms also.—Mylie E. Durham, Jr., M. D., Houston.

The "Individual Retirement Act" [Jenkins-Keogh type bill] will provide the means to restore equity; prepaid financial security for old age would be possible for all Americans.—Robert D. Moreton, M. D., Fort Worth.

Whenever government enters a field of private activity, that field becomes a political background. Let us not mix politics and medicine any more than has already been done. . . . This bill, S.B. 886 or H.R. 3458 [to provide for reinsurance of health plans], is apparently just another step in piecemeal legislation eventually destined to accomplish socialized medicine.—John M. Smith, Jr., M. D., San Antonio.

H.R. 7806 . . . is designed to set up a system of voluntary health insurance for military dependents, with nonprofit plans (such as Blue Cross) to be used in every case where such service is available. . . . Defense Department insists it will "have no choice but to find some way to provide these services itself" if an insurance program cannot be worked out.—James W. Rainer, M. D., Odessa.

If your profession won't take an interest in these things of general concern toward keeping the right kind of government and the American free enterprise system, then you'll be letting down your country and the people in not exercising the responsibility and duty that it seems to me you have.—Senator Price Daniel.

ington, and they pull and haul at us in every direction. We can't do the right thing. You are right, but what are we going to do about the pressure groups?"

There is only one pressure group in Washington, one overriding centripetal force—international socialism, which controls all the levers and pushes its pawns into this battle today and that battle tomorrow. And what does it all add up to? It adds up to the concentration of absolute power in the Washington bureaucracy. Why are the international socialists interested in sucking all of this power into Washington? Washington is merely a way station on the road to absolute socialistic world government, and behind this looms the grim shadow of the Kremlin. They will never drop any bombs on us—not as long as we are marching our forces in exactly the direction marked out for us from day to day.

What are we going to do about this great centripetal machine which is grinding to pieces the rights of the states and making mincemeat of the Tenth Article of the Bill of Rights? We must reduce our methods and our determinations to short directives; we cannot scatter our shots in this fight. We must see this thing for what it is. That is the importance of the Bricker Amendment, which would hamstring the internationalist aspects of the centripetal machine at one facet.

## SPENDING

Look at the Hoover compendium again. The Hoover reports make this interesting revelation: Our federal debt is not $280,000,000,000 as is advertised at the moment with an official limit of $281,000,000,000. Our federal indebtedness is $524,000,000,000, if you please, and according to Senator Harry F. Byrd of Virginia, that is just a few dollars short of being twice the value of all of the land, building, and tangible properties in the United States. Yet we propose to spend more than we take in. Where does the additional money come from? It comes out of your pockets. It comes out of the social security, if there is going to be any such thing, that you may get a few years from now. It comes out of your life insurance, out of your savings account, and out of your pension fund. Why? Because every time the federal government spends a dollar more than it takes in, it shrinks the value of the outstanding dollars. In the last 15 years, the value of the American dollar has shrunk 50 per cent.

I think the public could understand if you were on a television program, picked up a government bond, purchased in 1940 at $100 and due in 1955, and cut it right straight down the middle, throwing one half in the wastebasket. The other half is what is left of the 1940 investment. Half has gone down the drain through deficit spending, and the dollar which was invested in 1940 is continuing to shrink. It will shrink out of existence, and then the United States government will be taken into a receivership. The receiver for every bankrupt country in the world has been an absolute dictator. We would have a slave state, in other words. These are serious considerations.

I think, of course, that we should do all the traditional things to bring the people to a consciousness of the fact that government is like fire and that they are being destroyed by it. But we must do something else, which I do not think any one has suggested before. The Constitution of the United States is a limitation upon the power of government. It is a compendium of prohibitions against every governmental officer—legislative, executive, and judicial—that we have. I am confident that any rational construction of a constitution alongside of a half-dozen of the most notorious practices of the federal government today would conclude, first, that limitless federal spending for every Santa Claus purpose is unconstitutional; and, second, that withholding of taxes and social security payments from wages exceeds the power of Congress. I am convinced that any jury would come back in 30 minutes with a verdict that the social security fund is not insurance, and that the allocation of these funds violates the decision upon which the social security system lives, namely, the one that was made 20 years ago declaring that social security is merely a tax. It goes into the general fund. It cannot be earmarked, allocated, and trusted for any purpose, and therefore it becomes a special tax levied more heavily in lower than in higher incomes groups. If that is not discriminatory taxation, I know of none. I do not know of any court that would not so hold.

What shall we do? There are two ways to restrict Congress and the President. One is in the area of politics and public opinion. We have tried that and we should continue to try it. But we should not overlook the possibility of legal action through injunction, law suits, and whatever legal remedies are at hand in every state to stop this Saturnalia of inhumanity.

There is a brave man in the United States who has led the way—one of the most brilliant statesmen in the country, and one of the most courageous, Bracken Lee of Utah. People may ask, "Why doesn't he pay his taxes?" Bracken Lee believes, as hundreds of people believe, that the right of Congress to spend his money without stint or limit should be decided by the courts. The question never has been brought before the Supreme Court of this country. Where does Congress get the power to subsidize Nehru's government in India, or Tito's government in Yugoslavia, or to build dams in Egypt? We need to stop it, because there is no money for it. The federal govern-

ment is mortgaged to the hilt, and the dollars that you expect to leave to your children will be worthless.

The seas look like polished glass, but they are not smooth at all, and the icebergs you see with your telescopes disclose only one-seventh of their real size and strength. The part you do not see beneath the surface of this polished ocean is the communist menace that we spend so much money trying to avoid.

Congress did not write the Social Security Act at all. It was written in the International Labor Organization and adopted by Congress verbatim. All the amendments, including the amendment which now is before Congress, stems from the International Labor Organization, which is a group of international socialists, an organization which recently has invited Russia and her four satellites to be members. It is an organization for which we pay 25 per cent of the cost, and more than that when we reciprocate into it the amount we pay through the United Nations.

Thus, our whole process seems to be one of painless, even delightful, suicide. Now this, I think, is a medical problem. This is some kind of a malignant disease which requires a heroic remedy for its curing. This centripetal machine which pulls more and more power into the Washington way station toward world government must be disabled and destroyed. We must reduce the destructive process to a few simple activities.

We can do that by cutting taxes. You say that is strange if we already are broke, but that is the way to end the appropriations. We should cut taxes, outlaw deficit spending, pass the Bricker Amendment, demand the restoration of states' rights. We should defeat any appropriation or recommendation that is calculated to destroy states' rights, because states' rights ultimately are our best defense against communism. The local control of the police, education, the election laws, and the schools—that is our best and ultimate defense against the centralization of power which is the situation communism demands.

Every time I look at a will, I wonder about the sensibility of the man who made it. He strives earnestly through trust funds and other methods to provide security for his children on through their majority, their twenty-fifth year, their thirty-fifth year. I asked one of these men, "Mister, do you seriously expect this system to continue that long? And what are you doing to provide for continuity through the thirty-fifth year of the grandchild? What are you doing? What am I doing?"

What is being done about the menace of bigger government? All of us had better sharpen our sights and start pulling the trigger.

◗ Mr. Manion, St. Joseph Bank Building, South Bend 1, Ind.

# Health Insurance Answer—Service or Indemnity?

**W. R. McBEE**

***Dallas, Texas***

INFORMATION spoken or written as something new on the theories, basic fundamentals, or practical operation of our business pursuits is usually not new at all. It was already alive—maybe active, maybe dormant—within the storage vault of our knowledge. If dormant, the repetition may stimulate activation. If active, we are encouraged and reassured.

W. R. McBEE, *executive director of Blue Cross-Blue Shield of Texas, delivered this address at the National Executive Training Session of Blue Cross-Blue Shield at the University of Michigan in Ann Arbor, July 28, 1955.*

For emphasis, let us reexamine the arguments for the indemnity plan of health insurance and the arguments for the service plan.

## INDEMNITY PLAN

Here are points that have been advanced for the indemnity plan with which I agree:

1. Operation is simple. There is no need to sign up participating physicians or get them to agree to pro rata payment if plan funds are inadequate, which also constantly stimulates alertness to efficient and practical management and operation, and a consciousness that the plan must maintain a solvent position.

2. Good doctor relations are encouraged because there is the least possible interference with his profession and the doctor-patient relationship.

3. A more effective and economical physician relations effort is permitted. The more successful service plans have had to develop an extensive physician relations program to keep their doctors sold on the

service principle and its provisions and to try to make sure service benefits are delivered.

4. Many so-called service plans have had such low income limits that they are actually indemnity plans for most of their members. Income limits have not changed in keeping with an expanding economy and the resulting costs and incomes. Efforts to increase the income limits often create ill-will and dissatisfactions among the participating doctors.

5. For low income patients, many doctors accept the indemnity plan payment and make no charge to the patient. Thus, low income families often have service benefits even under an indemnity plan.

6. The indemnity plan fee schedule does not have to be laboriously worked out by a fee schedule committee of the medical society, and adjustments of inequities in the schedule can be quickly and easily made by the plan board or by the medical director if he has that authority. Greater benefits needed on specific procedures in one segment of the schedule can be put into effect quickly and without the demands for equal increases from some other specialty groups.

7. Abuses by physicians are, if anything, less likely in an indemnity plan because the human nature of the doctor is less likely to indicate that he has to "make up" for some fee which he reduced to give service benefits.

8. Service plan fee schedules, being uniform for an extensive area covered by the plan, do not often take into account differing fees in city and in rural areas. Thus the country doctor often may be overpaid and the city doctor underpaid. Similarly, the specialists usually feel that the fee schedule is inadequate for their work. In an indemnity plan, these differences are compensated for through the amount charged to the patient.

9. Claims that indemnity plans have nothing to offer that commercial insurance does not offer are not true. They offer nonprofit operation, which means the most return for the customer's dollar. They offer relatively low operating costs compared to most commercial carriers. They usually are associated with and operate in conjunction with Blue Cross, which again means more benefits at lower cost. They offer continued benefits after leaving a group, which most commercial companies do not.

10. Big industry management and labor are increasingly specifying uniform rates and benefits which are more easily provided through indemnity. Complications arise when both indemnity and service plan areas are involved, and too frequently the purchaser turns to a commercial insurance company by which indemnity benefits can be and are provided without the combination of complications.

11. The pattern of indemnity plans offer little that is compatible with the ideas of the socialistic planners, whereas the service plans might form a pattern of accepted average fees which many socialistic-minded might eye as a stepping-stone.

12. When coverage for national accounts is desired, service benefits will not work. Uniform professional fees on a nationwide basis have been and seem to continue to be an impossible dream. Indemnity makes national coverage possible.

13. Doctors traditionally have charged according to the patient's ability to pay rather than on a fee for service basis, and up to now the public has not found too much quarrel with this tradition. Prepaid health programs and other circumstances are demanding modification of this practice and tradition, and in my opinion the indemnity system best lends itself to this modification as it probably would relate to and include a revised system of charges to people in all walks of life.

14. Indemnity plans do not have to publish lists and constantly revised lists of participating physicians, nor furnish telephone referral service to members. Some doctors stoutly maintain that publication of such lists is a violation of medical ethics and refuse to participate for this reason.

15. Up to now indemnity plans offer a freer choice of physician than service plans, since many plans still have not signed up all eligible doctors in their areas. Some service plans pay no benefits, or reduced benefits, for services of nonmember physicians. This is a serious restriction on free choice of physician.

In a Blue Cross plan of more than 500 member hospitals I have experienced the difficulties, the grief, and damage to public relations that confronted us for a period of years because one widely patronized hospital was not a member of the plan. One of the most devastating weaknesses born with the Blue Cross plans and one which we were too slow to strengthen was the reduction or restrictions upon benefits when care was received in nonmember hospitals or beyond defined geographical boundaries.

A number of doctors or only a few popular doctors who for any reason, good or bad, choose not to participate in a plan can be an unintentional destructive force. Happy members just stay happy and keep it to themselves. Unhappy members stay unhappy and tell it to the world. It is a good feeling for the member and for those responsible for administration of services to know that to whomever and wherever one goes for professional services, beyond his district or beyond state borders, the same benefits are available.

## SERVICE PLAN

Those favoring service plans have some arguments, too, among them the following:

1. The principal aim of forming the Blue Shield plans was to provide protection for the low income family—the family able to pay ordinary expenses but not unexpected doctor's bills—the "medically indigent." A service plan, with realistic income limits, is the only answer to this problem by voluntary means.

2. The service principle is consistent with the aims of the medical profession to put good medical care within reach of all and not just the well-to-do.

3. Establishment of the service principle with a fee schedule adopted after adequate consultation with and consideration by the medical profession encourages many doctors to use such fees in nonservice cases in which they are legally entitled to make an additional charge.

4. The service principle prevents the doctor from increasing his normal charge merely because the patient has insurance.

5. Only through the service principle do the Blue Shield plans have anything to offer that the commercial companies do not have.

6. The service principle encourages all participating physicians to consider the plan their own. From being forced to learn more about the plan, they naturally will come to feel more interest in it and will give the plan more active support in every way.

7. Since the service plan's fee schedule usually has been formed, in some way, through consultation with the medical profession, the fees will be more realistic and will find readier acceptance among the doctors.

8. Only service benefits can serve to avoid eventual socialization of medicine. It is only by answering the needs of the lower income group (and labor) that the clamor for governmental intervention can be quieted.

9. The growth of catastrophic illness broad benefits and major medical expense benefits makes a service plan almost essential because of the accepted fee schedules which the plans have worked out with the medical profession.

## OPPORTUNITY FOR HEALTH CARE

The foregoing statements are only a few of the scores of points that could be made on both sides. They will suffice, though, to lead us into an examination of the basic philosophies that steer us down somewhat different avenues of search and experimentation.

Foremost, perhaps, we have seen, condoned, and permitted a germination, growth, and increasing conviction that someone has the responsibilities of removing from the American people the obligation to provide for themselves any portion of the cost of health care, and that someone else is responsible for such cost and care. Some believe employers should accept the obligation; others contend that the federal government should; others are making so-called studies and surveys to determine who ought to do it. This is but an integral part of creeping and stalking socialism. Health care cannot be provided by others except at the expense of the taxpayer, and why should the taxpayer share the additional burden?

America was founded and grew upon an individual initiative which has given its people the highest standards of living ever known in the history of the world. Food, clothing, shelter, and doctor and hospital bills always have been an individual responsibility. It is no more right to expect to be provided with medical and hospital care than it is to expect to be provided with food, clothing, and shelter.

We in America are not really looking and hoping for security. We want opportunity. The founders of this nation came here in search of opportunity, the opportunity to provide for themselves, to choose as they pleased, to do as they pleased so long as there was not interference with the rights of others. They never spoke of security. The security philosophy appeared on the horizon along with the advent of the New Deal social planners, eventually covered this nation, and enveloped far too many minds like a bewitching fog. We have set about to make the whole world, the nations of the world, and all the people of all the nations secure against every conceivable unpleasant contingency. There is no one who can provide us and no means by which a single one of us can be provided with the promised security; but daily we take millions of hard-earned dollars from you, from me, from rich man, poor man, the farmer, the laborer, and pour them into this synthetic and fancied fountain of socialized medicine, socialized just about everything, down to and including baby sitters, and we call it security.

That the American public might be given the opportunity to provide for themselves is good, and really the responsibility and duty we are trying to accept, though our ways and means may vary. But let us not become confused in our objective.

And should not the realistic approach leave some portion of the bill to be paid by all income participants of a prepaid plan? As we move forward and into other areas with our prepaid health programs, we will become more and more exposed to the fact that safety and success depend upon every participant recognizing that he is a participant and that as such he has an obligation and responsibility. It is the same principle that tells me and tells you that we will never have economy in our federal government until people in all income groups are made to pay their equitable share of the cost of waste and socialistic, illegal, and unconstitutional handouts, and to pay through a means that makes them realize they are paying rather than being hoodwinked into be-

lieving that the boss or some mysterious source is paying their share.

Let us view the position of the person in a service plan, say of a $5,000 income level—that is about average. Oftentimes and for many and varied reasons the person in the salary bracket between $5,000 and $6,000 or even higher is experiencing more financial difficulty than those protected by the income limit while he is not. If this trend continues, will we not eventually be expected to embrace a continually expanding scope, including home and office calls, with the resulting uncontrollable abuses and burdens upon both doctor and plan? The doctor who delivers the service is an important person in this endeavor, and he, his position, his services, and his profession deserve careful and cautious consideration and understanding.

There is a basic principle in law dealing with contracts, known to and respected by every good lawyer and jurist, saying that the skills and services of professional persons cannot legally be considered equal or of the same value, and thus the agreement for the services of one or a specified group of individuals cannot be satisfied or fulfilled by the substitution of another individual or group of the same profession. Do not those people for whom some insist upon service benefits rightly demand the right to hire their own plumber, electrician, auto mechanic, or lawyer with the accompanying right to negotiate the price, and do they consider all firms' or persons' service of equal value?

If we continue to pressure for better service plans with higher and higher income levels and broader services in other categories, with a corresponding limit upon the doctor's fee, are we not likely to create a contractual system that will stifle and strangle individual initiative of the doctor, not unlike the obvious results created by socialized medicine?

Let us face it. Let us be realistic. Doctors are human beings just like health plan administrators. They have the usual strengths and the usual frailties that abide in human nature. A benevolent fate did not endow them with a holier-than-thou righteousness, nor did the devil plague them with horns of evil. Why would they not become discouraged with a contractual system that takes no recognition of individual skill, personal ability, or effort? Is there not danger of a service system contributing to the deterioration of medical care? There have been many complaints that some doctors treat patients under the income ceiling as if they were charity patients. Obviously this at the present would be a small minority of doctors, but the feeling may be widespread among service plan members that they are getting assembly line medical care because of the inability of the doctor to make his regular charge. Can we disregard this complaint? Can we doubt that a like minority of doctors will consider themselves victims of an unjust system and so compensate themselves through their charges to those for whom they are not contractually bound?

Time may prove me wrong, but I am yet unwilling to cheer those who proclaim a lack of duty on that portion of the profession who have not actively sponsored and caused service plans to be accepted. What about the doctors who have given of their time and efforts to the establishment of a good indemnity plan, along with the recognition that across the border indemnity plans lend themselves more readily toward uniformity in serving employees and employers, and then who have worked just as diligently in persuading doctors not to abuse the plan and to encourage the public through reasonable charges?

It may never be accomplished in toto, but my idea of the more perfect plan would be the one in which the doctors reached sufficient uniformity and reasonableness in their charges that the indemnity plan could provide practical and realistic benefits on the basis of well and generally established charges. Even on such a basis I think that it would be practical, that it would be good for the public, and that we would have no right to quarrel with some peaks and valleys as relates to charges, resulting from special skills or other justifiable circumstances.

Emphasizing this point, in Texas we have just handled our one millionth Blue Cross hospital case on which we received widespread newspaper, radio, and television publicity. The patient had a thyroidectomy; she is the mother of four small children; her husband drives a garbage truck for the city of Waco; the family lives in modest circumstances and on a modest salary. Naturally we wanted to report the hospital and doctor bill paid in full by Blue Cross and Blue Shield if practical, based on the professional charges we might encounter. I telephoned the doctor who did the surgery, who expressed a complete willingness to cooperate on the proposed publicity, and then asked him what his total charges would be. He said this was a rather difficult case which had required four months to work up for surgery and that he did not know the amount of his charge because the family was in moderate circumstances and he had informed them that his entire charge would be whatever Blue Shield paid, which happened to be $225 for the surgery, and the doctor was happy. Certainly, this attitude does not prevail throughout the medical profession, but also neither is the commendable attitude on the part of this doctor an isolated case.

As retiring President of the American Medical Association, Dr. Edward J. McCormick had this to say: "The profession should consider the creation of average fee lists or fee schedules that would prevail on an area or regional basis for the vast majority of cases." The old Robin Hood method of "soaking the

rich to help the poor," he suggested to the AMA's policy-making House of Delegates, has outlived its usefulness. It is irritating to the public; it is responsible for some scandalously high doctor bills; and it is threatening to make a sham out of voluntary health insurance. The time has passed when a doctor can properly boost his usual fee merely because the patient—or the patient's insurance company—can afford to pay a higher price.

## BLUE CROSS–BLUE SHIELD

Here let us take a joint look at Blue Cross and Blue Shield, because neither can ever succeed without the other. Both have made changes and adopted principles and procedures that fifteen years ago would have been heresy; we had to make some effort to meet changing conditions and public wants and demands, else we would have been lost long ago.

I remind again that there are those who argue that the indemnity plans can offer no advantages over commercial insurance companies. There are those in both Blue Cross and Blue Shield who say if we adopt insurance principles we are through, because then the insurance companies can beat us in every effort. I think we should admit with no apologies or embarrassment that both Blue Cross and Blue Shield were founded on insurance principles. Had there never been insurance, I doubt whether there ever would have been a Blue Cross or Blue Shield.

We saw the insurance principle, but we also saw a different and never before tried application of that principle and method of operation. All of these things we saw not being done, we did, we continue to do. Even with the many changes we have made, no one has been able successfully to imitate us. All these things apply to Blue Cross plans and to Blue Shield service plans and Blue Shield indemnity plans.

Among the multitude of "don'ts," some scream that experience rating, for example, is a sin, never to be indulged in by Blue Cross or Blue Shield. Yet I expect every one of us administrators has engaged in some procedure that amounted to experience rating ever since our plans started. What about the factors that caused some plans to waive the enrollment fee, waive preexisting conditions, reduce enrollment requirements? Justified by circumstances—yes, but it has something to do with experience or anticipated experience. I delve into these side issues because they typify some of the points of difference, and relate the arguments used to justify those divergent views.

If we accept the fact that there is an important but unresolved issue as to the advantages of a Blue Shield service plan or indemnity plan, then it would seem a logical conclusion that these disagreements have slowed our progress and perhaps created many of our admitted problems. I do not believe this is true to a major degree except in our imagination. On the contrary, while my expressed preference has been the indemnity plan, I still believe that service and indemnity plans can live compatibly and cohesively and function effectively together. I think that in the near future this belief will have been justified and proved. Can any of us name any two Blue Cross plans with identical benefits, any two that charge the same rates, any two that use the same basis of payment to hospitals? Yet they are credited with a pretty good job of teamwork, even in handling national accounts, because the earnest desire and common objective dominate, and so it must be with Blue Shield.

What then is the source of the problem that we are sometimes quick to charge to indemnity plans, service plans, the adoption of insurance principles, or some other? Perhaps the answer to that question is the unrealistic and somewhat imaginary problem to which I just referred. Can it be, too, that we have been so busy with our daily responsibilities that we seldom vision, rarely recognize, and spend too little effort on the national aspects of our aims and objectives and inadequate functional relationships? I think so.

We talk about our national problems—maybe talk too much with not enough thought and action. Maybe among ourselves we have been too willing to try to hide rather than expose our problems. Nevertheless, there is abundant evidence that any program as worthy as Blue Cross and Blue Shield moves with a compelling and ever expanding force, first because of that worthiness and second because there are always persons working at and successfully removing any otherwise deterring and retarding roadblocks.

Many times it has been said that England loses every battle but the last, and in the meantime she takes an awful beating. We in Blue Cross and Blue Shield have not been too much unlike that. We have always had the ball, but we have kicked it all over the field; we have fumbled ourselves into more fumbles. But when our backs are to that one yard line, we will consolidate our forces and move with that coordinated determination that scores the all important touchdown.

♦ Mr. McBee, 2208 Main Street, Dallas 22.

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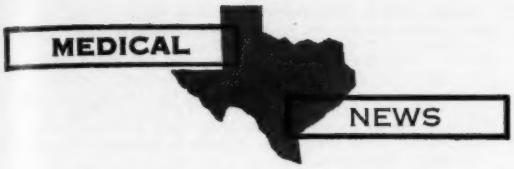
**University of Texas Medical Branch**

Dr. Sidney Ochs, California Institute of Technology, Pasadena, and Dr. Howard C. Hopps, University of Oklahoma, Norman, were guests on the University of Texas Medical Branch campus in February and March for the regular Sigma Xi seminars.




## ★ Coming Meetings

Texas Medical Association, Galveston, April 21-25, 1956. Dr. J. Layton Cochran, San Antonio, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Executive Secy.

American Medical Association, Chicago, June 11-15, 1956. Dr. Elmer Hess, Erie, Pa., Pres.; Dr. George F. Lull, 535 North Dearborn, Chicago 10, Secy.

### National and Regional

American Academy of Allergy. Dr. Stanley F. Hampton, St. Louis, Pres.; Dr. Francis C. Lowell, 65 E. Newton, Boston, Secy.

American Academy of Dermatology and Syphilology, Chicago, Dec. 8-13, 1956. Dr. George M. Lewis, N. Y., Pres.; Dr. James R. Webster, 55 E. Washington, Chicago 2, Secy.

American Academy of General Practice. Dr. John R. Fowler, Barre, Mass., Pres.; Mr. Mac F. Cahal, 406 W. 34th St., Kansas City 2, Executive Secy.

American Academy of Obstetrics and Gynecology, Chicago, Nov. 7-9, 1956. Dr. Ralph E. Campbell, Madison, Wisc., Pres.; Dr. C. Paul Hodgkinson, 116 S. Michigan Blvd., Chicago 3, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 14-19, 1956. Dr. A. C. Furstenberg, Ann Arbor, Pres.; Dr. W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn., Secy.

American Academy of Pediatrics, Houston, April 16-18, 1956. Dr. Harry Bawkin, New York, Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Secy.

American Association for Thoracic Surgery, Miami Beach, Fla., May 7-9, 1956. Dr. Richard H. Meade, Grand Rapids, Mich., Pres.; Dr. Paul C. Samson, 3959 Happy Valley Rd., Lafayette, Calif., Secy.

American Association of Genito-Urinary Surgeons, Oyster Harbors, Mass., June 4-6, 1956. Dr. Norris J. Heckel, Chicago, Pres.; Dr. John A. Taylor, 2 E. 45th St., New York 22, Secy.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons. Dr. Thaddeus L. Montgomery, Philadelphia, Pres.; Dr. F. R. Lock, Bowman Gray School, Winston-Salem, N. C., Secy.

American Cancer Society. Dr. Guy Aud, Louisville, Ky., Pres.; Mr. M. R. Runyon, 47 Beaver, New York, Executive Vice-Pres.

American College of Allergists, New York, April 15-20, 1956. Dr. Lawrence J. Halpin, Cedar Rapids, Iowa, Pres.; Mr. Eloi Bauers, 401 Marquette Bank Bldg., Minneapolis 2, Executive Vice-Pres.

American College of Chest Physicians, Chicago, June 7-10, 1956. Dr. James H. Stygall, Indianapolis, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Secy.

American College of Physicians, Los Angeles, April 16-20, 1956. Dr. George F. Strong, Vancouver 1, B. C., Pres.; Mr. E. R. Loveland, 4200 Pine, Philadelphia 4, Secy.

American College of Radiology. Dr. Warren W. Furey, Chicago, Pres.; Mr. W. C. Stronach, 20 N. Wacker Dr. Chicago 6, Executive Secy.

American College of Surgeons, San Francisco, Oct. 8-12, 1956. Dr. Warren H. Cole, Chicago, Pres.; Dr. Michael L. Mason, 40 E. Erie, Chicago 11, Secy.

American Congress on Obstetrics and Gynecology. Dr. R. Gordon Douglas, 116 S. Michigan Ave., Chicago 3, Chm.

American Congress of Physical Medicine and Rehabilitation, Atlantic City, N. J., Sept. 10-14, 1956. Dr. Gordon M. Martin, Rochester, Minn., Pres.; Dr. Frances Baker, 1 Tilton Ave., San Mateo, Calif., Secy.

American Dermatological Association, Santa Barbara, Calif., June 18-21, 1956. Dr. V. Pardo-Castello, Havana, Cuba, Pres.; Dr. J. Lamar Callaway, Duke Hospital, Durham, N. C., Secy.

American Gastro-Enterological Association, Atlantic City, N. J., April 27-28, 1956. Dr. Robert Elman, St. Louis, Pres.; Dr. H. Marvin Pollard, University Hospital, Ann Arbor, Mich., Secy.

American Gynecological Society, Washington, D. C., May 21-23, 1956. Dr. Isidor C. Rubin, New York, Pres.; Dr. John I. Brewer, 104 S. Michigan Ave., Chicago, Secy.

American Heart Association, Cincinnati, Oct. 27-31, 1956. Dr. Irvine H. Page, Cleveland, Pres.; Mr. Irving Hexter, 44 E. 23rd, New York 10, Secy.

American Hospital Association, Chicago, Sept. 17-20, 1956. Mr. Ray E. Brown, Chicago, Pres.; Dr. Edwin L. Crosby, 18 E. Division, Chicago, Executive Director.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 15-17, 1956. Dr. Dean M. Lierle, Iowa City, Pres.; Dr. C. S. Nash, 277 Alexander, Rochester 7, N. Y., Secy.

American Neurological Association, Atlantic City, N. J., June 18-20, 1956. Dr. J. M. Neilson, Los Angeles, Pres.; Dr. Charles Rupp, 133 S. 36th, Philadelphia 4, Secy.

American Ophthalmological Society, Hot Springs, Va., May 31-June 2, 1956. Dr. Alan C. Woods, Baltimore, Pres.; Dr. M. C. Wheeler, 30 W. 59th, New York 19, Secy.

American Orthopedic Association, Banff, Canada, June 20-23, 1956. Dr. Paul C. Colonna, Philadelphia 4, Pres.; Dr. George O. Eaton, 4 E. Madison, Baltimore 2, Secy.

American Pediatric Society, Buck Hill Falls, Pa., May 6-11, 1956. Dr. Allan M. Butler, Boston, Pres.; Dr. A. C. McGuinness, 237 Medical Laboratory, University of Pennsylvania, Philadelphia 46, Secy.

American Proctologic Society, Detroit, June 6-9, 1956. Dr. Stuart T. Ross, Hempstead, N. Y., Pres.; Dr. Karl Zimmerman, 3500 Fifth Ave., Pittsburgh 13, Secy.

American Psychiatric Association, Chicago, April 30-May 4, 1956. Dr. R. Finley Gayle, Richmond, Va., Pres.; Dr. William Malamud, 80 E. Concord, Boston 18, Secy.

American Public Health Association, Atlantic City, Nov. 12-16, 1956. Dr. Ira V. Hiscock, New Haven, Conn., Pres.; Dr. R. M. Atwater, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, Kansas City, Mo., Oct. 8-12, 1956. Dr. Scott M. Smith, Salt Lake City, Pres.; Dr. J. E. Remlinger, Jr., 188 W. Randolph, Chicago, Secy.

American Society of Clinical Pathologists, Chicago, Oct. 7-12, 1956. Dr. Emma S. Moss, New Orleans, Pres.; Dr. Clyde G. Culbertson, 1040 W. Michigan, Indianapolis 6, Secy.

American Surgical Association, W. Sulphur Springs, W. Va., April 11-13, 1956. Dr. Alfred Blalock, Baltimore, Pres.; Dr. R. Kennedy Gilchrist, 59 East Madison, Chicago 3, Secy.

American Urological Association, Boston, May 28-31, 1956. Dr. George C. Prather, Brookline, Pres.; Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secy.

Association of American Physicians and Surgeons, Annual Meeting, Columbus, Ohio, April 5-7, 1956. Dr. James L. Doenges, Anderson, Ind., Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter. Dr. Arnold S. Jackson, Madison, Wisc., Pres.; Dr. Karl Meyer, 1516 Lake Shore Dr., Chicago, Secy.

National Tuberculosis Association, New York, May 21-25, 1956. Dr. Edward T. Fagan, Brooklyn, Pres.; Mrs. Morrell DeReign, 1790 Broadway, New York 19, Secy.

Radiological Society of North America. Dr. Tom B. Bond, Fort Worth, Pres.; Dr. D. S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association, Washington, D. C., Nov. 12-15, 1956. Dr. Raymond McKenzie, Baltimore, Pres.; Mr. V. O. Foster, 1020 Empire Bldg., Birmingham 3, Secy.

Southern Psychiatric Association. Dr. John D. Trawick, Louisville, Pres.; Dr. Joseph L. Knapp, 210 N. Westmoreland, Dallas, Secy.

Southern Surgical Association. Dr. Carrington Williams, Richmond, Pres.; Dr. George Finney, 2947 St. Paul, Baltimore, Secy.

Southwest Allergy Forum. Dr. Henry D. Ogden, New Orleans, Pres.; Dr. Stanley Cohen, 1441 Delachaise, New Orleans, Secy.

Southwest Regional Cancer Conference. Dr. John L. Wallace, Box 1719, Fort Worth, Chm.

Southwestern Medical Association. Dr. John A. Dettweiler, Albuquerque, N. Mex., Pres.; Dr. Russell L. Deter, El Paso, Secy.

Southwestern Surgical Congress, Tucson, Ariz., April 16-18, 1956. Dr. C. R. Rountree, Oklahoma City, Pres.; Dr. C. M. O'Leary, 207 Plaza Court Bldg., Oklahoma City, Secy.

Tri-State Medical Society. Dr. William B. Harrell, Texarkana, Pres.; Dr. Karlton Kemp, 408 Hazel, Texarkana, Ark., Secy.

United States-Mexico Border Public Health Association. Mr. Richard F. Poston, San Francisco, Pres.; Dr. Sidney B. Clark, 314 U. S. Court House, El Paso, Secy.

### State

Private Clinics and Hospitals Association of Texas, Dallas, December, 1956. Dr. J. P. Anderson, Brady, Pres.; Mr. C. H. Rugeley, Wharton, Secy.

Texas Academy of General Practice, Houston, Sept. 16-19, 1956. Dr. J. D. Murphy, Fort Worth, Pres.; Mr. Donald C. Jackson, 308 W. 15th, Austin, Executive Secy.

Texas Academy of Internal Medicine, Dallas, December, 1956. Dr. DeWitt Neighbors, Fort Worth, Pres.; Dr. Hugo Engelhardt, 1216 Main, Houston, Secy. Meetings restricted to members.

Texas Air-Medics Association, Galveston, April 22-23, 1956. Dr. W. A. Ostendorf, Fort Worth, Pres.; Dr. C. F. Miller, P. O. Box 1338, Waco, Secy.

Texas Association of Blood Banks. Dr. O. J. Wollenman, Jr., Fort Worth, Pres.; Miss Marjorie Saunders, 3500 Gaston Ave., Dallas, Secy.

Texas Association of Obstetricians and Gynecologists. Dr. John Delany, Galveston, Pres.; Dr. Oran V. Prejean, 4317 Oak Lawn, Dallas, Secy.

Texas Chapter, American College of Chest Physicians, Galveston, April 22, 1956. Dr. Samuel Topperman, Tyler, Pres.; Dr. J. O. Armstrong, 3810 Swiss Ave., Dallas, Secy.

Texas Club of Internists. Dr. Charles Barrier, Fort Worth, Pres.; Dr. Charles Darnall, Capital National Bank Bldg., Austin, Secy.

Texas Dermatological Society, Galveston, April 22-23, 1956. Dr. E. B. Ritchie, Galveston, Pres.; Dr. Thomas L. Shields, 1216 Pennsylvania Ave., Fort Worth, Secy.

Texas Diabetes Association, Galveston, April 22, 1956. Dr. Mavis P. Kelsey, Houston, Pres.; Dr. Hugo Engelhardt, P. O. Box 2180, Houston, Secy.

Texas Division, American Cancer Society. Mr. Leonard M. Gunderson, Amarillo, Pres.; Mr. Curt W. Reimann, 1609 Colorado, Austin, Acting Executive Director.

Texas Geriatrics Society, Galveston, April 22, 1956. Dr. Donald G. Kilgore, Dallas, Pres.; Dr. J. O. S. Holt, Jr., 3707 Gaston Ave., Dallas, Secy.

Texas Heart Association, Galveston, April 22, 1956. Dr. Kleberg Eckhardt, Corpus Christi, Pres.; Mr. Edgar M. Brown, 404 Jesse H. Jones Library Bldg., Texas Medical Center, Houston 25, Executive Director.

Texas Hospital Association, Dallas, April 3-5, 1956. Mr. Boone Powell, Dallas, Pres.; Mrs. Ruth Barnhart, 2210 Main, Dallas, Secy.

Texas Industrial Medical Association, April 6, 1956. Dr. Virgil M. Payne, Jr., Dallas, Pres.

Texas Neuropsychiatric Association, Galveston, April 23, 1956. Dr. Stephen Weisz, Dallas, Pres.; Dr. Bruce H. Beard, 1519 Pennsylvania, Fort Worth, Secy.

Texas Orthopedic Association, Galveston, April 23, 1956. Dr. Paul Williams, Dallas, Pres.; Dr. Margaret Watkins, 3629 Fairmount, Dallas, Secy.

Texas Pediatric Society, Oct. 19-20, 1956. Dr. R. J. Blattner, Houston, Pres.; Dr. James N. Walker, 5216 W. Freeway, Fort Worth, Secy.

Texas Proctologic Society. Dr. John McGivney, Galveston, Pres. and Secy.

Texas Public Health Association. J. N. Murphy, Jr., Austin, Pres.; Mr. H. E. Drumwright, City Health Department, Dallas, Executive Secy.

Texas Radiological Society, Corpus Christi, Jan. 18-19, 1957. Dr. J. R. Riley, Corpus Christi, Pres.; Dr. J. E. Miller, 6407 Forest Lane, Dallas, Secy.

Texas Railway and Traumatic Surgical Association, Galveston, April 23, 1956. Dr. A. O. Singleton, Jr., Galveston, Pres.; Dr. W. D. Marrs, 306 Broadway, Fort Worth, Secy.

Texas Rheumatism Association. Dr. Frank F. Parrish, Jr., Houston, Pres.; Dr. Warren W. Moorman, 901 W. Leuda, Fort Worth, Secy.

Texas Society for Mental Health. Dr. Abe Hauser, Houston, Pres.; Mr. John Lane, 2510 San Antonio, Austin, Acting Executive Secy.

Texas Society of Anesthesiologists, Galveston, April 22, 1956. Dr. Joe B. Wood, Dallas, Pres.; Dr. Milton M. Rosenzweig, 200 Wildwood Dr. E., San Antonio, Secy.

Texas Society of Gastroenterologists and Proctologists, Galveston, April 23, 1956. Dr. W. T. Arnold, Houston, Pres.; Dr. O. P. Griffin, 1101 Medical Arts Bldg., Fort Worth, Secy.

Texas Society of Ophthalmology and Otolaryngology. Dr. A. E. Jackson, Fort Worth, Pres.; Dr. Gatlin Mitchell, 1604 Medical Arts Bldg., Fort Worth, Secy.

Texas Society of Pathologists, Galveston, April 24, 1956. Dr. Sidney W. Bohls, Austin, Pres.; Dr. M. H. Grossman, St. Paul Hospital, Dallas, Secy.

Texas Surgical Society, Fort Worth, April 2-3, 1956. Dr. P. I. Nixon, Sr., San Antonio, Pres.; Dr. Albert W. Hartman, 414 Navarro, San Antonio 5, Secy.

Texas Tuberculosis Association, Midland, April 6-7, 1956. Mrs. Joella Terrill Butler, Wichita Falls, Pres.; Miss Pansy Nichols, 2406 Manor Rd., Austin, Executive Secy.

Texas Urological Society. Dr. A. J. Ashmore, Corpus Christi, Pres.; Dr. Rex Carter, 1709 San Antonio, Austin, Secy.

### District

First District Society. Dr. E. W. Schmidt, Pecos, Pres.; Dr. John Dunn, Pecos, Secy.

Second District Society, Odessa, April 19, 1956. Dr. T. W. Novak, Odessa, Pres.; Dr. Willis T. Carson, 506 North Allegheny, Odessa, Secy.

Third District Society, Plainview, April 11, 1956. Dr. Marvin C. Schlecte, Plainview, Pres.; Dr. William Klingensmith, 706 Monroe St., Amarillo, Secy.

Fourth District Society, San Angelo, 1956. Dr. Joe B. Stephens, Bangs, Pres.; Dr. S. H. Martin, 115 S. Park, San Angelo, Secy.

Fifth and Sixth Districts Society, Corpus Christi, July 6-7, 1956. Dr. E. Jackson Giles, Corpus Christi, Pres.; Dr. Maurice Nast, 1126 3rd, Corpus Christi, Secy.

Seventh District Society. Dr. John R. Rainey, Jr., Austin, Pres.; Dr. Leslie C. Colwell, 1410 Brazos, Austin, Secy.

Eighth District Society, Brazoria, 1956. Dr. Carlos Fuste, Alvin, Pres.; Dr. John Childers, Univ. of Texas Medical Branch, Galveston, Secy.

Ninth District Society. Dr. Joseph T. Dabney, Livingston, Pres.; Dr. Lyman C. Blair, 1212 Rothwell, Houston, Secy.

Tenth District Society. Dr. Taylor Walker, Beaumont, Pres.; Dr. Alan E. Hubner, 590 Center, Beaumont, Secy.

Eleventh District Society, Tyler, April 5, 1956. Dr. Royal Kay, Palestine, Pres.; Dr. Hugh F. Rives, Jacksonville, Secy.

Twelfth District Society, Waco, July 10, 1956. Dr. R. Henry Harrison, Bryan, Pres.; Dr. W. M. Avent, 1716 Colcord, Waco, Secy.

Thirteenth District Society, Wichita Falls, April 4, 1956. Dr. P. M. Kuykendall, Ranger, Pres.; Dr. Robert D. Moreton, 815 Medical Arts Bldg., Fort Worth, Secy.

Fifteenth District Society, Marshall, 1956. Dr. James Harris, Marshall, Pres.; Dr. L. E. Rutledge, Daingerfield, Secy.

### Clinics

Dallas Southern Clinical Society. Dr. Alvin Baldwin, Jr., Dallas, Pres.; Miss Helga Boyd, Medical Arts Bldg., Dallas 1, Executive Secy.

International Medical Assembly of Southwest Texas. Dr. John C. Parsons, 1125 Nix Professional Bldg., San Antonio, Secy.

New Orleans Graduate Medical Assembly, New Orleans, March 11-14, 1956. Dr. Donovan C. Browne, New Orleans, Pres.; Dr. Maurice E. St. Martin, 626 Maison Blanche Bldg., New Orleans 16, Secy.

North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls, Sept. 8, 1956. Dr. J. L. Jackson, III, Wichita Falls, Chm.

Oklahoma City Clinical Society Conference, Oklahoma City, Oct. 22-25, 1956. Miss Alma F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secy.

Postgraduate Medical Assembly of South Texas, Houston, July 16-18, 1956. Dr. C. Forrest Jorns, 5644 Lawndale, Houston, Secy.

State Tumor Conference, Wichita Falls, April 4, 1956. Dr. Bailey R. Collins, 925½ Scott, Wichita Falls, Director.

### Board Examinations

Texas State Board of Examiners in Basic Sciences. Mrs. Betty Ratcliff, 407 Perry-Brooks Bldg., Austin, Chief Clerk.

Texas State Board of Medical Examiners. Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth, Secy.

## Postgraduate Courses

*Management of Diabetes,* Denver, May 17-19. The course will be sponsored by the University of Colorado School of Medicine and the Colorado Diabetes Association, and will be designed for practicing physicians. Guest clinicians assisting with the course will be Dr. Arthur R. Colwell, Chicago; Dr. Henry T. Ricketts, Chicago; and Dr. Howard F. Root, Boston. Complete details may be had from the Office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20.

*Pediatrics,* Philadelphia, May 28-June 8. The following short courses will be conducted at the Children's Hospital: *Pediatric Advances for Pediatricians and General Practitioners,* May 28-June 1; *Practical Pediatric Hematology,* June 4-6; *Blood Group Incompatibilities and Erythroblastosis Fetalis,* June 7-8. Dr. Irving J. Wolman, 140 Bainbridge Street, Philadelphia 46, can send further information.

*Topics in Clinical Medicine,* Baltimore, May 7-12. This course, for physicians primarily interested in internal medicine, will be sponsored by the Johns Hopkins Hospital and the Johns Hopkins University School of Medicine, and will be under the direction of Dr. A. M. Harvey, director of the Department of Medicine. All discussions will be related to the diagnosis and management of patients and, whenever possible, will be illustrated by clinical demonstrations. The fee is $100. For further information those interested may write Dr. Philip A. Tumulty, Department of Medicine, Johns Hopkins Hospital, Baltimore 5.

*Neurology and Psychiatry,* Dallas, April 2-4. This course was taught by members of the faculty of the University of Texas Southwestern Medical School, and was under the auspices of the Postgraduate School of Medicine of the University of Texas. Topics included psychodynamics and psychopathology, the psychoneuroses, alcoholism, drug addic-

tion, medicolegal problems, suborachnoid hemorrhage, the meningitides, diseases of the basal ganglia, and other related subjects.

*Allergy,* Houston, May 5 and 6. This is the second part of a course in allergy designed for the otolaryngologist, and will be devoted to food allergies. Dr. Herbert J. Rinkel, Kansas City, Mo., will be the instructor. Tuition will be $30, and physicians may register by writing the University of Texas Postgraduate School of Medicine, Texas Medical Center, Houston.

## Oklahoma Rheumatism Society

Nine scientific papers will be presented at the annual meeting of the Oklahoma Rheumatism Society in Ardmore, to which Texas doctors are invited. A buffet dinner Friday evening, May 25, will open the program, and the following day will be devoted to registration, a business meeting, and the scientific sessions. Topics will include steroids in arthritis, rheumatic chest pain, degenerative arthritis, psychogenic rheumatism, newer concepts of the fibrocollagen diseases, reconstructive surgery in the arthritic, multiple myeloma, rheumatic fever and rheumatoid arthritis in children, and the role of infection in rheumatoid arthritis.

A cocktail hour and banquet will be held in the evening. Tickets for the buffet dinner May 25 are $3.50; for the social hour and banquet May 26, tickets are $5. Hotel accommodations, if desired, may be arranged by sending a $10 room deposit to Lake Murray Lodge, Ardmore.

## Atomic Medical Convention to Feature Atoms for Peace Exhibit

The Atoms for Peace exhibit of the United States government will be shown as a part of the first Atomic Medical Convention, which will be held April 21 in Oklahoma City. During the week of April 22-28, the Southwest American exposition will be held there; that week also is medical education week. The only public showing of the exhibit in the United States will be held during the exposition.

Topics to be discussed at the medical meeting will include "Isotopes in Medicine—What They Are," Dr. Marshall Brucer, Oak Ridge; "Isotopes in Medicine—How They Are Used," Dr. G. A. Andrews, Oak Ridge; and "Atomic Medicine in Oklahoma," panel discussion. The dinner speaker will be Dr. Dwight H. Murray, Napa, Calif., President-Elect, American Medical Association.

## Cancer Conference Scheduled June 4-6 in Detroit

The American Cancer Society and the National Cancer Institute of the Public Health Service, Department of Health, Education, and Welfare, jointly will sponsor the Third National Cancer Conference in Detroit June 4-6. Morning and afternoon sessions of the three-day meeting will begin with a general session at which a subject of broad interest will be presented. The general sessions then will break into various interest groups to discuss cancer of different types. Copies of the conference program and advance registration cards may be obtained from the National Cancer Conferences Coordinator, American Cancer Society, 521 West Fifty-Seventh, New York 19.

# PERSONALS

*Dr. Albert W. Hartman, Jr.,* San Antonio, was a guest speaker at the March sectional meeting in Colorado Springs of the American College of Surgeons.

*Dr. John G. Young,* Dallas, was a guest lecturer at the College of Medical Evangelists Alumni Postgraduate Convention in Los Angeles early in March.

Members of the Texas Medical Association who recently have been inducted into the American Academy of Obstetrics and Gynecology include *Dr. William J. Hegedus,* Amarillo; *Dr. Ben K. Howard,* Dallas; *Dr. J. L. Jackson III,* Wichita Falls; *Dr. Garland H. Lang,* Midland; and *Dr. Walter E. McRee, Jr.,* Port Arthur.

*Dr. J. G. Sewell,* Belton, is the new president of the Belton Chamber of Commerce.

Dr. Henry A. Petersen, Jr., an intern at Johns Hopkins Hospital, Baltimore, son of *Dr. Henry A. Petersen,* Houston, died December 24, 1955, after a six-month illness.

*Dr. Titus H. Harris,* Galveston, recently was the recipient of the Hogg Foundation Award, which is given in recognition for outstanding contributions to the field of mental health.

## Symposium on Brain Stimulation

The Department of Psychology of the University of Houston, with the Hogg Foundation for Mental Hygiene, will sponsor a Symposium on Brain Stimulation April 26-28 at the Methodist Hospital in Houston. The topics of discussion will be techniques, neurophysiological correlates, behavioral correlates, and human studies. Experimental and clinical studies dealing chiefly with electrical stimulation of the brain and its relation to emotional behavior will be highlighted; much of the material is unpublished. Complete information and advance registration blanks may be obtained from Dr. Daniel E. Sheer, Psychology Laboratory, University of Houston, Houston.

## National Hospital Week May 6-12

"Your Hospital . . . For You and Your Community" will be the theme for National Hospital Week, which will be observed May 6 through 12. During this week, many hospitals will hold disaster drills to meet the type of local situation they are most likely to encounter. The American Medical Association's Council on National Defense heartily endorses this project. Hospitals plan to solicit the widest possible community cooperation.

# STUDENT AMERICAN MEDICAL ASSOCIATION

The Student American Medical Association will meet in Chicago May 4-6. A highlight of the three-day meeting will be a panel presentation, "Rx from the Press," which will advise on a doctor's professional relations with writers and commentators. Mr. Leo Brown, director of public relations for the American Medical Association, will serve as moderator. Fifty technical exhibitors will display their products, and one student will win an expense paid tour to Europe accompanying pediatricians to the Eighth International Congress of Pediatricians in Copenhagen. Representatives from 70 medical schools are expected to attend.

## Public Health Service Gives Grants For Hospital Service Improvement

Eleven grants totaling $491,328 to enable hospitals, health agencies, and community groups to conduct research and demonstrations for the improvement of hospital services have been made by the United States Public Health Service. Of this sum, $25,428 will go to the University of Texas, Austin, for a comparative study of two types of communities and their hospital services to find the relationship between the social organization of a community and the success of its general hospital. Ivan Belknap, Ph. D., associate professor of sociology, will be the principal investigator.

## OPHTHALMOLOGY RESIDENCIES ESTABLISHED

Eighteen fellowships for residents in ophthalmology will be established during the next three years by the Guild of Prescription Opticians of America. The purpose of these fellowships is to encourage young physicians to become residents in ophthalmology by providing financial help during all three required years of residency. Each will provide a total stipend of $1,800, payable in monthly installments during the three-year period. Applications and information may be secured from the Guild, 110 East Twenty-Third, New York 10.

### United States-Mexico Border Public Health Association

The United States-Mexico Border Public Health Association meeting was held jointly in Mexicali, Baja California, and Calexico, Calif., in mid-April. New officers of the association are George W. Marx, Phoenix, president; Dr. Guillermo Soberanes, Hermosillo, Sonora, Mexico, president-elect; Dr. Austin W. Matthis, El Centro, Calif., first vice-president; Dr. Esteban De Essesarte, Agua Prieta, Sonora, Mexico, second vice-president; and Dr. Sidney B. Clark, El Paso, secretary-treasurer. Dr. Henry A. Holle, Austin, is a member of the board of trustees.

### American Board of Obstetrics And Gynecology Examinations

The oral and clinical (part II) examinations for all candidates of the American Board of Obstetrics and Gynecology will be conducted in Chicago May 11-20. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

## INFANTILE PARALYSIS GROUP ANNOUNCES 35 GRANTS

The National Foundation for Infantile Paralysis has made 35 grants totalling $1,943,887 for scientific research and respiratory centers, it was announced recently by Basil O'Conner, president. Grants to Texas projects include $15,359 to Baylor University College of Medicine, Houston, for the study of a pattern of illness that has been found to develop frequently in patients recovering from severe poliomyelitis, plus $126,326 for a respiratory center there; and $127,971 to the Jefferson David Hospital, Houston, for a respiratory center.

## INTERNATIONAL COLLEGE OF SURGEONS

The International College of Surgeons will hold a Southeastern regional meeting in Chattanooga, Tenn., April 30 and May 1. Among the scientific speakers will be Dr. Curtice Rosser, Dallas. There will be panel discussions on gallbladder disease, surgery of the thyroid, and surgery of the stomach. Dr. William G. Stephenson, 546 McCallie Avenue, Chattanooga 2, can supply complete information.

## INTERNATIONAL ACADEMY OF PROCTOLOGY

The eighth annual convention of the International Academy of Proctology will be held in Chicago April 23-26. Dr. Hesiquio N. Gonzales, San Antonio, is councilor for Texas.

Subjects to be presented will include ulcerative colitis, carcinoma of the rectum and colon, hemorrhoids, anorectal strictures, pilonidal cysts, surgical complications of anorectal surgery, polyps, amebiasis, diverticulitis, fluids and electrolytes in gastrointestinal surgery, and anesthesia.

### States Medical Postgraduate Association

The States Medical Postgraduate Association now is open for membership on an individual basis instead of on a group basis, as has been the policy in recent years. Accordingly, the dues are being changed to $5 per individual member, thus making it possible for all persons interested in postgraduate medical education to become members, and to attend the annual meeting.

### American Heart Association

The American Heart Association will meet in Cincinnati October 27-31. All persons interested in presenting scientific papers on the program should submit an abstract to the medical director by May 15; likewise, scientific exhibitors must apply for booth space by that date. Special forms are available from the medical director, Dr. Charles D. Marple, 44 East Twenty-Third, New York 10.

### American Goiter Association

The American Goiter Association will meet May 3-5 in Chicago. Appearing on the scientific program will be five Houston physicians, Dr. T. M. Ferguson, Dr. J. B. Trunnell, Dr. J. R. Couch, Dr. B. Dennis, and Dr. P. Wade. Their paper will be "Factors Governing the Development of the Chick Embryo Thyroid."

### Southwestern Medical Foundation Benefits

The formal opening of the Statler Hilton Hotel in Dallas included a charity ball, at which approximately 1,000 persons paid $100 a plate. The $70,000 net profit was given to the Southwestern Medical Foundation. The Junior League of Dallas sponsored the ball, and television comedian George Gobel presented the entertainment.

## Pharmacology

The prescription is said to be the complete manifestation of the physician's art. The long years of learning and judgment in making the correct diagnosis from his knowledge of anatomy, physiology, pharmacology, and therapeutics enables the physician to prescribe correctly.

In historical times, a different kind of knowledge was required to write a prescription. The symbol for the prescription was not the abbreviation for the Latin word recipe, but the symbol of Jupiter the planet. The doctrine of planetary influence is as old as the Chaldeans, who held that the regions of the body were assigned to various zodiac signs. The drugs must be gathered and mixed when the moon was just so old. Hippocrates advised his son to study arithmetic and geometry because these constituted the elements of astronomy, and astronomy was indispenable to the physician, since the phenomenon of disease was thought to depend upon the rising and setting of the stars.

The physicians' prescription as mentioned in the epics of Homer were descriptions of "simples" which were used to spread on wounds. One of the most common "simples" employed was camomile. Another common ointment was composed of beeswax liquefied in olive oil, or in attar of roses; sometimes wine and oil was used for dressings of wounds. "Ptisan" (barley gruel) was the great standby of the day to be used in all acute diseases. It was prepared with great care according to inflexible rules. Honey and water, or honey and wine also were used. Hippocrates and his disciples used the emetics, one of which was a mixture of radishes and salt water, and another a mixture of hyssop, vinegar, and salt, this being one of the first prescriptions known to exist in writing. Few medicines were taken internally.

In Dioscorides "De medica materia" one finds 47 remedies for erysipelas, no less than 48 for headache, and 165 diuretic drugs. The materia medica of Dioscorides describes the appearance, habit, preparation, and therapeutic use of some 1,200 substances, including minerals and animal substances. The quantity of the ingredients or doses to be taken were rarely given. For example the following prescription is listed:

> The ashes of the sea-horse, made into an ointment with pitch, cures baldness. The dried testes of the hippopotamus powdered, and taken with water, is good for snake-bite.

The most famous prescription was the Mithredate named after Mithradates VI, Eupator, King of Pontus. The King, having sought to make himself immune to poisoning, took a prescription which contained 36 ingredients mixed with honey. The weight of this mixture would be approximately 3 pounds, and if taken as a dose per day would last about six months.

Roger of Parma, one of the professors of Salerno, offered the following prescription for the treatment of goiter.

> While you are chanting the Pater Noster, dig up a plant of nux vomica which has never yet produced fruit. Add two hundred grains of pepper, and pound the plant and roots thoroughly. Then boil it in the best wine until the volume has been reduced by half. Take this on an empty stomach until cured.

It is known that by 1600 about 132 ingredients were required for the compounding of but one of the many cures used by physicians. In the hands of many the writing of a prescription was like some magic charm. With the invention of the printing press, the knowledge of medicine and pharmacy spread. In 1630, Peruvian bark was used in the treatment of malaria, and in 1783 William Withering published his monograph on the purple foxglove, and so on until the prescription was brought out of the realm of mystery, magic, and folklore to the exacting science that we know today.

In 1892, John J. Able was appointed professor of pharmocology at the Johns Hopkins School of Medicine; thus the teaching of pharmacology made its appearance in the United States. Since 1900 there has been the standardization of drugs; drugs also have been used in the diagnosis of diseases, and progress has been made in chemotherapy. Today the search for new and better drugs to ease the suffering of mankind goes on in our research institutions.

Some sources of information relating to pharmacology which are available in the Memorial Library of the Texas Medical Association follow:

### Books and Articles

*Cornell Conferences on Therapy,* New York, Macmillan, 1952.

Goodman, L., and Gilman, A.: *Pharmacological Basis of Therapeutics,* ed. 2, New York, Macmillan, 1955.

Grollman, A.: *Pharmacology and Therapeutics,* ed. 2, Philadelphia, Lea & Febiger, 1954.

Krantz, J. C., and Carr, C. J.: *Pharmacologic Principles of Medical Practice,* ed. 3, Baltimore, Williams and Wilkins, 1949.

Meyler, L.: *Side Effects of Drugs,* Houston, Elsevier Publishing Co., 1952.

*Modern Drug Encyclopedia and Therapeutic Index,* ed. 6, New York, 1955.

Tallmadge, G. K.: *The Prescription and the Auspices,* Ciba Symposia 9:730-734 (Nov.) 1947.

Tallmadge, G. K.: *The Evolution of the Prescription,* Ciba Symposia 7:735-747 (Nov.) 1947.

Tallmadge, G. K.: *Golden Age of the Prescription,* Ciba Symposia 9:748-757 (Nov.) 1947.

Wills, J. H.: *Pharmacology Today,* Scientific Monthly 71: 93-101 (Aug.) 1950.

*Year Book of Drug Therapy, Chicago,* Year Book Publishers, 1955.

### Journals

Antibiotics and Chemotherapy.
Journal of Pharmacology and Experimental Therapeutics.
Modern Drugs.
Publications of Pharmaceutical Houses.

### Films

And the Earth Shall Give Back Life, sound, 25 min., 1955.
Ascorbic Acid and Scurvy, sound, 25 min., 1948.
Rheumatoid Arthritis, sound, color, 31 min., 1950.
The Atom and Medicine, sound, 12 min., 1953.
Understanding Vitamins, sound, color, 12 min., 1954.

### Symposium on Legislation Speeches Available on Tape

Tapes of the speeches given at the January Symposium on Legislation sponsored by the Texas Medical Association, entitled "Issues Facing the Congress" by the Hon. Price

Daniel and "Big Government Makes Little People" by Dean Clarence E. Manion now are available for loan from the Memorial Library. They can be used on any standard tape recorder.

## ★ Books

### Treatment of Mental Disorder

LEO ALEXANDER, M. D., *Director, Neurobiological Unit, Division of Psychiatric Research, Boston State Hospital, and Instructor in Psychiatry, Tufts Medical School. 507 pages. $10. Philadelphia, W. B. Saunders Company, 1953.*

This book is designed for the beginning neuropsychiatrist although it will be of interest to the older psychiatrist in that there are presented a great many of the physiologic concepts of both the genesis and therapy of psychiatric disorders. Students of psychiatric nursing also will benefit from this book, particularly from the chapter on the role of the nurse during treatment.

The emphasis is on the physical therapies, including such subjects as the electrical properties of currents used for treatments, the neurophysiologic aspects of the physical treatments, and the psychophysiologic effects of the various treatments. Although the psychologic methods of treatment are mentioned, they are not given as much space nor detail as are the physical therapies.

Dr. Alexander's discussion of the Funkenstein test as a method of choosing the proper form of treatment is stimulating. On first reading it appears as if he is relying on it too much; however, further studies of the book reveal that he does put it in its rightful place as a diagnostic aid which must be utilized in light of the clinical evaluation. The most useful portions of the book are the step by step outlines of the physical therapies with adequate diagrams and pictures; the excellent bibliography at the end of each chapter; and the challenge to those who are oriented toward a physiologic concept of mental disease.

—Dr. Robert W. Johnson, Corpus Christi.

### Office Procedures

PAUL WILLIAMSON, M. D. *412 pages. $12.50. Philadelphia, W. B. Saunders Company, 1955.*

In the preface it is noted that the material included in the book was obtained over a period of years from numerous authors, including personal communications from other physicians, as well as by the writer himself. There is a short note at the end asking any one with a better way of doing a procedure described in the book to write to the author.

No information is given about the author. From the observations scattered throughout the book it would appear that he is a general practitioner with considerable experience who has a clinic type practice in a rather isolated area. The impression is gained also that he is aggressive and feels duty bound to attempt to treat any condition that presents itself.

The book is divided into 15 sections covering ear, nose, and throat; eye; musculoskeletal system; gynecology; obstetrics; urology; proctology; pediatrics; minor surgery; internal medicine; psychologic testing; anesthesia; physiotherapy; the small laboratory; and roentgenography. Each section deals with examination, instrumentation when indicated, and treatment with emphasis on minor surgical procedures. There are suggestions given which will not meet with general acceptance in all probability. These include the use of fat salt pork as a pack to treat nasal hemorrhage and the reduction of fractures of the malar bone using an ordinary wood screw, a pair of pliers, and a screw driver. Other procedures scattered throughout the book are more in keeping with accepted practice and offer a practicable approach to the problem discussed. Worthy of favorable comment is the emphasis of gentleness in handling tissues in both major and minor surgical procedures.

The older physician may find this book of interest in that it describes the way another physician deals with various problems. The volume may be of value to the young physician doing general practice in a relatively isolated area in helping him to work out his own solutions to the various problems.

—G. S. Littell, M. D., Dallas.

### Pain: Its Mechanisms and Neurosurgical Control

JAMES C. WHITE, M. D., F.A.C.S., *Chief, Neurosurgical Service, Massachusetts General Hospital and Associate Professor of Surgery, Harvard Medical School;* WILLIAM H. SWEET, M. D., F.A.C.S., *Associate Visiting Neurosurgeon, Massachusetts General Hospital and Associate Clinical Professor of Surgery, Harvard Medical School;* STANLEY COBB, M. D., *Former Chief of Psychiatric Service, Massachusetts General Hospital and Bullard Professor of Neuropathology, Emeritus, Harvard Medical School; and* FRANCES J. BONNER, M. D., *Assistant in Psychiatry, Massachusetts General Hospital and Harvard Medical School. 736 pages. $17.50. Springfield, Ill., Charles C Thomas, 1955.*

This is the first extensive monograph dealing with all phases of pain transmission and its surgical interruption since Foerster's classic treatise written a generation ago. It is designed for neurosurgeons and all who are interested in relief of persistent unbearable pain in which there is no possibility of eliminating the underlying cause.

From the foreword by Sir Geoffrey Jefferson:

> This book is concerned with pain not as a warning signal but with pain as an enemy that can be defeated. Medicinally unrelievable pain works to such a degree on man's emotions, so reduces his usefulness to himself and others, so saps his morale that we must rehabilitate him if we can. An authoritative book like this on the means by which to do it is invaluable. Its virtue is that it has been written out of rich experience. This is no "scissor and paste" affair. On the contrary, the writers only give their approval to such operative steps as they themselves treated and have found to fit the case.

Drs. White and Sweet have drawn upon the case records of 420 patients covering more than 15 years' experience in the preparation of this volume. Their complications and disappointments as well as their gratifying successes are fully accounted. Beautifully illustrated throughout, the first of three parts of the manuscripts deals with the fundamental aspects of pain mechanisms and certain psychiatric considerations. There follows in part II seven chapters detailing surgical technique and diagnostic nerve blocks. The nine chapters of part III are concerned with consideration of specific painful conditions.

This monograph undoubtedly will achieve a prominent position in the libraries of neurosurgeons as well as serve as an authoritative reference to all those interested in the management of uncontrollable pain.

—Ralph A. Munslow, M. D., San Antonio.

★ Texas
Medical Association

# Doctor Distribution Survey

## NEED FOR MORE PUBLIC RELATIONS NOT MORE DOCTORS

Is there a doctor shortage in Texas? No! The recently completed doctor distribution survey conducted by the Texas Medical Association through its Committee on Rural Health and Doctor Distribution revealed that in 1955 there were 1,226 Texans for every active private practitioner. This ratio is higher than the national ratio of 958 persons to each active private practitioner, but the figures fail to tell the full story. Neither the doctors nor the public considered a ratio of 1,226 too high to provide good medical care. Only about 4 per cent of all the Texas population in communities of 600 persons or larger indicated that they needed more doctors. Also, the trend since 1940 has been toward a lower population-physician ratio. The ratio for 1940 was an estimated 1,258 to 1; for 1955 the ratio is estimated at 1,226 to 1; and a forecasted ratio for 1975 is 724 to 1. On the basis of this information, Dr. Chester U. Callan of Rotan, chairman of the Association's Committee on Rural Health and Doctor Distribution, believes that it is fair to conclude that there is no shortage of doctors in Texas now and that it is unlikely that one will occur in the predictable future.

### THE DISTRIBUTION QUESTION

Is there a problem in the distribution of doctors in Texas? The answer to this question is yes. Is it a major problem? No, Dr. Callan and his committee believe. Without trying to minimize the seriousness of a high population-physician ratio to the persons living in areas where such ratios occur, they point out that the survey showed the outstanding majority of Texans, 83 per cent, to be living in counties where the ratio is 2,000 to 1 or less. If only 3 per cent of the active private practitioners in Texas chose to relocate in high ratio counties, no county would have a population-physician ratio which exceeded 2,000 to 1, and most ratios would be lower.

The question might be put to the medical profession, if there is no shortage of doctors, why has the idea become so widespread? There is a short answer. The practice of medicine has changed substantially since World War II, and the doctors have not kept the public fully informed of the new ways evolving.

Today's doctor has allies his predecessors could not imagine. These allies are not only the scientific advancements, wonder drugs, and the like, but the medical team with which he works. More and more, there appear the association of small groups of physicians and the opening of private clinics. This pooling of medical talent improves the quality and service of the medical care offered; and because it is a more efficient economic unit, there become available technicians, laboratory services, and equipment which an individual doctor would find difficult to afford, Dr. Callan emphasizes. Further, this new approach to medicine increases the doctor's personal efficiency. It utilizes more of his time in practice and wastes less chauffeuring his automobile. The doctor now can leave his practice occasionally to attend postgraduate courses which advance his medical knowledge and increase his technical skill. The new approach is more sparing of his person and allows him more time for rest—perhaps not yet enough, but at least more.

The net result is a longer, more productive working life, and the benefit accrues directly to the patient. Today's doctor is bringing better medical care to as many as two times more patients than did the generation of doctors which preceded him. Regretably, Texas doctors have failed to convey to the public the significance of this progress to them.

The survey showed clearly that the old concept of measuring a doctor's availability in terms of the miles to his office is outdated. Good primary and secondary highways and the telephone have changed the concept to one of minutes—life-saving minutes. Today the important question is not "How *far* is it to my doctor?" but "How *long* is it to my doctor?" Twenty miles in many rural areas mean in emergencies the doctor is less than one-half hour away.

These factors have contributed to the migration of doctors to primary and secondary medical centers and have made it less necessary that each village have its own doctor. It means also that very small rural communities within the general trade area of larger community may have difficulty keeping a doctor in their community, but paradoxically they will be getting better medical care more conveniently than their fathers did, Dr. Callan reminds. The long hours spent waiting for the doctor who was on the time-consuming tour of his rounds are sometimes forgotten.

Many of these rural communities which lack a resident doctor are having the same difficulty keeping their minister and other professional men.

These are some of the reasons for the patterns revealed by the survey information accumulated. The counties which had a high population-physician ratio established patterns around the medical centers within their district. The primary medical center of the district with an attending low population-physician ratio seemed to be encompassed by counties with high population-physician ratios in the majority of cases. In addition, this same pattern held true for the secondary medical centers of these districts; that is, when a county had a relatively low population-physician ratio and modern hospital facilities, it was surrounded by counties in which population-physician ratios were relatively high by comparison.

Although the survey information was gathered and utilized from the county standpoint, the town and county should be rejected as an acceptable unit for indicating the proper supply and distribution of physicians, Dr. Callan believes. Rather, the trading area seems to provide the best unit for the study of adequate medical coverage in a given area. In forming the opinion that the trading area should be used in this type of survey, Dr. Callan thinks one should recognize that medical service has the same supply and demand pattern as that established for consumer goods. Stock items are obtained at convenience, and specialty lines are served from larger trading centers where specialization has an economically sound opportunity.

Dr. Callan is convinced that future studies of Texas doctor distribution should be patterned after the definitive nationwide survey, "Distribution of Physicians by Medical Service Areas," prepared by Frank G. Dickinson, Ph. D., director of the Bureau of Medical Economic Research of the American Medical Association, Chicago. The use of the medical service area should give a truer and more reliable picture of doctor distribution.

## THE SURVEY

The creation of a special committee for the purpose and the inauguration of a doctor distribution survey represented three years of effort by the medical profession in Texas to learn the facts about the "doctor shortage" in Texas alleged by critics of private medicine.

In 1952, a special Committee on Doctor Distribution was named, headed by Dr. Chester U. Callan, Rotan, chairman of the Committee on Rural Health, and consisting also of Dr. Harvey Renger, Hallettsville, chairman of the Council on Medical Economics; Dr. Troy A. Shafer, Harlingen, chairman of the Committee on Public Relations; Dr. J. C. Terrell, Stephenville, past chairman of the Committee on Rural Health; and Dr. Allen T. Stewart, Lubbock, past president of the Texas Medical Association and present member of the American Medical Association's Council on Rural Health.

The committee was directed to: (1) find out the extent of the "doctor shortage" in the eyes of the profession, (2) find out the extent of the "doctor shortage" in the eyes of Texas communities, and (3) do something about existing shortages, which would include showing communities their part of the two-way job.

So directed, the committee began the first phase of the survey, getting the opinion of the profession on a "doctor shortage." Questionnaires went to 6,500 doctors, and 6,000 replies were returned. The replies indicated a need for additional doctors in communities of less than 2,000, particularly in northwest Texas and in south Texas.

The second phase sought the opinion of the communities. To avoid undertaking a job too big for its capacity, the committee moved with caution. A pilot survey was applied to District 7 surrounding Austin.

This pilot survey approach used in District 7 set the pattern for the entire project. A pamphlet entitled "Does Your Community Need a Doctor?" was prepared for distribution to community officials. Dr. J. M. Coleman of Austin, district councilor, wrote letters to each doctor in the district, as well as to county society officers. He explained the intent and the mechanics of the impending survey.

Dr. Callan wrote the chamber of commerce secretary, the mayor, or the county judge in each community with 1,000 population or more, identifying the survey and explaining its objectives. He asked that the local communities be evaluated by their citizenry according to rating materials he enclosed and suggested that if they concluded there was a need for additional doctors, they write to the Texas Medical Association. Dr. Callan pointed out in his letter that no reply would be regarded as an indication from the community that its number of doctors was sufficient.

The Committee on Doctor Distribution was combined in 1954 with the Committee on Rural Health, and the survey continued under the direction of the Committee on Rural Health and Doctor Distribution.

By the late fall of 1955, all 15 districts of the Texas Medical Association had been surveyed. Every community with a population of 600 or more (a total of 683) was contacted. Of this number only 26 considered themselves to be in neel of additional doctors. A survey team consisting of the district councilor, a county society official, a member of the special Committee on Rural Health and Doctor Distribution, and a representative from the central office of the Texas Medical Association has visited to date 17 of these 26 and, using special rating forms, evaluated the need of the community and its desirability as a location for a physician. Each of the 26 communities was given a priority listing with the Physicians Placement Service. Mrs. Wacille Johnson, coordinator of Physicians Placement, has been able to locate doctors in five of these communities.

The doctors apparently considered the maldistribution of physicians more acute than do the people they serve, Dr. Callan reports. Doctors regard 47 counties deficient in medical care, a more critical review of the distribution picture than that given by the laity, who consider only 26 communities deficient.

The results of the survey of 683 communities are summarized in table 1. The complete data will be included in detail in the handbook, "Doctor Distribution Surveys in Texas."

TABLE 1.—*Summary of Doctor Distribution Survey.*

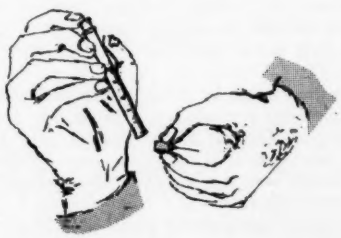
| | |
|---|---|
| Number of communities contacted | 683 |
| No replies | 651 |
| Replies received | 32 |
| Lay replies of adequate medical care and complimenting the medical profession for a public-spirited undertaking | 6 |
| Lay replies of inadequate medical care and requests for aid | 26 |
| Communities surveyed as a result of lay requests | 17 |
| Communities not yet surveyed | 9 |
| Communities listed with the Physicians Placement Service | 26 |
| Counties considered by county medical society secretaries to be in need of more doctors | 47 |

A brief summary of the findings of the doctor distribution survey, Dr. Callan suggests, would be (1) that there is no doctor shortage in Texas and (2) that the distribution of doctors in Texas is good, but far from perfect.

## 121 Health, Education Leaders Attend Physicians, Schools Meet

The first Texas Conference on Physicians and Schools, held March 15 and 16 in Austin, was attended by 38 physicians, 20 school administrators, 17 school nurses, 14 representatives from school health services, and 32 other persons connected with the health and education fields.

Dr. Jay J. Johns, Taylor, chairman of the Texas Medical Association's Committee on School-Physician Relationships, was in charge of the program, and speakers at the general



meeting the first day included Dr. J. Layton Cochran, San Antonio, President of the Association; Lee Wilborn, Ph. D., Austin, Assistant Commissioner of Instruction, Texas Education Agency; Dr. Henry A. Holle, Austin, State Commissioner of Health; and Fred V. Hein, Ph. D., Chicago, Bureau of Health Education, American Medical Association.

Following the general meeting, those attending were divided into five discussion groups. In each group, the following topics were examined: "The Role of the Physician, Dentist, and School Administrator in the School Health Program," "Communicable Diseases," "Emergency Care and Athletic Injuries," "Methods of Health Appraisal and Screening Techniques," and "Health Examinations and Health Records for School Children."

Every group emphasized the need for a health council, to be composed of school administrators, doctors, and dentists. The medical and dental profession can be helpful in pointing out the health needs of a particular school and suggesting ways to improve school health care, they agreed. The teachers, however, are in a better position to observe the effectiveness of the program and to enforce its regulations, some groups decided.

The importance of training the teacher to observe any deviations from normal healthy behavior was stressed as a major factor in the control of communicable diseases. Definite policies should be made by school administrators, conferring with physicians, on the readmission of children who have had communicable diseases, and parents should be made aware of, and educated in the reasons for, these policies. Regarding emergency care and athletic injuries, the consensus was that the health and medical care of the student primarily is the responsibility of the parent, but that the school should take every precaution to prevent injuries, should train its personnel in first aid procedures, and should know the name of the family doctor of every child and how to reach the parents of every child at all times. A written and well-publicized policy regarding athletic and other injuries should be made by the school.

Examinations for physical health, speech, mental health, and tuberculosis were termed necessary for each child every year, and it was said that medical and dental organizations, Parent-Teacher Associations, and civic clubs should cooperate to make available health examinations and special care needed by children whose parents cannot afford such expenses.

Health records should include observations made by the teacher and the school nurse, medical history, and immunization records. The school, it was thought, should ask doctors what type of physical activities would be suitable for each child, so that every child would participate in the physical education program according to his physical and emotional abilities.

Group chairmen were Drs. R. K. Arnett, Lufkin; D. J. Sibley, Jr., Fort Stockton; A. R. Hazzard, Giddings; E. E. Addy, Jr., Cisco; and James N. Walker, Fort Worth. Dr. William M. Crawford, Fort Worth, was moderator of a panel which summarized the group discussion.

## Cancer Brochures Sent To Texas Doctors

Two new brochures have been prepared by the Texas Medical Association in cooperation with the American Cancer Society, Texas Division, for use by Texas physicians. One is essentially for patients and one relates to programs for medical meetings.

"If You Want a 'Cancer Examination'" is a small leaflet which explains the type of examination a patient may expect if he asks for a "cancer examination." It emphasizes the importance of giving the doctor a full and accurate medical history in addition to having a physical checkup. Every member of the Association has received a copy.

The second brochure gives a choice of selected programs on cancer which are available to county medical societies through the Texas Medical Association, in cooperation with the American Cancer Society, Texas Division. It has been circulated to the presidents, secretaries, and program chairmen of all county societies.

## Texas Commission on Patient Care Now Has Executive Secretary

Mr. Wilson L. Wells, Jr. has been appointed executive secretary for the Texas Commission on Patient Care. He will have an office in the Texas Medical Association building in Austin until January, 1957, when it is anticipated that the Commission will be able to assume full responsibility for its program.

The main work of the Commission currently is to encourage young people to enter medical and paramedical professions. In order to discharge the obligation of the medical profession to support this work, the Board of Trustees offered to employ an executive secretary and provide office space and secretarial services for the remainder of this year. Texas hospitals are underwriting all operational expenses for the program.

Mr. Wells is a native of Minneapolis, where he received his bachelor of arts degree in psychology at the University of Minnesota. He has done graduate work at the University of Texas and elsewhere in the field of theology and sociology. For the past two years he has been in the insurance business in Waco and Austin. He is married and has two children.

## Texas Doctors Oppose Social Security for Selves

A fraction less than 90 per cent of the 3,087 Texas doctors who answered the recently conducted Texas Medical Association poll oppose compulsory inclusion of physicians under the social security program. Of those who replied, 2,764 opposed compulsory inclusion, 275 favored compulsory inclusion, 43 wrote in votes to favor voluntary inclusion, and 5 expressed no opinion.

This poll, conducted among the entire membership of the state organization in recent weeks, shows an even stronger opposition to inclusion of physicians under social security than was noted earlier in a less comprehensive survey made by *Medical Economics* for its article on Texas medicine. This article (December, 1955, page 143) stated: "Doctors across the country divide almost evenly on the question of Social Security for professional men. But 83 per cent of the Texas doctors queried say they're dead set against it."

Physicians throughout the nation do not reflect the same opinion. The issue of *Medical Economics* carrying the Texas report noted (page 15) that a medical society poll in Westchester County, N. Y., indicated that 3 out of 10 doctors there favor compulsory coverage, another 5 want voluntary inclusion, and only 2 prefer the status quo. Recent reports of a poll in Pennsylvania are that 58 per cent (3,500 out of 6,700) of physicians answering a questionnaire favor social security for the medical profession.

Because extension of social security to include various self employed groups is before Congress, surveys of those who would be affected if legislation of this type were adopted have been popular. The State Bar of Texas, at the request of the American Bar Association, polled Texas lawyers on the subject. Social security coverage of lawyers on a voluntary basis was favored 860 to 454; on a compulsory basis was opposed 1,106 to 262.

The overwhelming opposition of members of the Texas Medical Association to inclusion of doctors under social security might be explained partially, it has been pointed out, on three counts: (1) Texas conservatism, (2) the educational campaign of the Association over a period of months to assist physicians in understanding the ramifications of social security in general and inclusion of physicians under the program in particular, and (3) the concentration of educational efforts recently under direct sponsorship of the Association's Council on Medical Jurisprudence through visits to county medical societies and mailing of pertinent information to each member of the Association. Another factor might be the choices allowed on the printed questionnaire card: no provision was made for voluntary inclusion of physicians unless the person replying felt strongly enough to write in an answer. This voluntary inclusion possibility has tended in some surveys to cloud the issue inasmuch as it seems evident, and has been so stated by Marion Folsom, secretary of Health, Education, and Welfare, that social security cannot operate on a voluntary basis.

The Council on Medical Jurisprudence of the Texas Medical Association as a result of the poll, considers itself armed with adequate information regarding the wishes of the physicians it represents to continue its opposition to a social security plan for doctors.

## Health Plan Guide For Patients' Use

"Your Health Plan Guide," a leaflet which has been sent to every member of the Texas Medical Association, has been prepared by the Council on Medical Economics to help patients select the type of health insurance which will be most beneficial to them. The leaflet gives information about services offered by health insurance, particularly with regard to protection against big illnesses, major medical expense, and medical coverage as related to automobile liability insurance.

Eleven rules to follow in buying or checking health insurance are given; they are as follows:

1. Read your policy.
2. Don't try to cover routine medical expense.
3. Check benefits available for hospital services, and beware of low limits.
4. Check the limitations or waiting periods for maternity care and other conditions.
5. Be sure you have the right to choose your own physician and hospital.
6. Read the "Exclusions Clause."
7. Try to get insurance on a group plan where you work.
8. Don't try to cover every possible expense unless you can stand a very high premium.
9. Don't ask your doctor to falsify any report to any insurance company.
10. Be sure your health plan will not refuse to renew your policy or membership because of illness or advanced age.
11. Be careful of policies which cover only specific diseases or special types of accidents; these policies have some value for poliomyelitis or cancer, but the buyer should be aware of the limitations.

Physicians desiring to order these leaflets in quantity may do so by writing the Council on Medical Economics, Texas Medical Association, 1801 North Lamar Boulevard, Austin.

### INSURANCE PREMIUMS DUE

The first billing for semi-annual premiums for the Texas Medical Association Group Disability Program was mailed early in April, and payments will be due May 1. A 30-day grace period will be allowed, making May 31 the final date on which payments may be made. Physicians who have questions about any aspect of the program may consult the representative of the Charles O. Finley Company at booth 43 during the annual session in Galveston.

## ★ American Medical Association

## Congress on Industrial Health

At the close of the recent Congress on Industrial Health in Detroit, participants voted to map a plan for gathering work absence statistics and issuing periodic reports on them for industry's guidance. The meeting, sponsored by the American Medical Association's Council on Industrial Health and five other organizations, drew nearly 500 persons engaged in industrial health work.

It was emphasized that control of absence is not the sole purpose of the industrial medical department, but that the department should serve as adviser and counselor on this problem. Another point discussed was that health insurance plans offered by industry do little to prevent disability since diagnostic care specifically is excluded from coverage. Dr. A. Hazen Price, Ann Arbor, stressed that older workers are not the major contributors to absence, but they need to be eased into retirement and helped in their adjustments. Such steps can be a major preventive against chronic disability, Dr. Price said.

In a panel discussion on "Medicine's Responsibilities in the Automotive Age," Dr. Elmer Hess, Erie, Pa., President of the American Medical Association, suggested tougher driver license requirements with interstate standardization, stricter law enforcement, standardized safety improvements in automobiles, and a national research institute on safe driving as being steps of major importance in reducing the highway accident toll.

### Dr. Blasingame Named Chairman Of AMA Salk Vaccine Committee

Dr. F. J. L. Blasingame, Wharton, Past President of the Texas Medical Association, has been appointed chairman of an eight-member American Medical Association committee "to gather the facts relative to the Salk vaccine and its utilization in the prevention of paralytic poliomyelitis." The committee's task will be to review and evaluate the current literature and opinion relative to the Salk vaccine.

## ★ County Societies

### Cameron-Willacy Counties Society

February 20, 1956

The Cameron-Willacy Counties Medical Society met February 20 in Brownsville, and Mr. Albert Hettler, administrator and director of the Southwest Blood Bank in Harlingen, was the principal speaker. A motion was made and unanimously carried that the secretary draw up a resolution opposing the proposed state amendments providing for mandatory attendance of members of county medical societies. It also was decided to oppose the proposed probationary membership period as being unsuitable for smaller societies.

—Reported by Lee Works, Secretary.

### Gonzales County Society

January 17, 1956

The Gonzales County Medical Society met in Gonzales January 17 and elected Odon F. Von Werssowetz, president; L. J. Stahl, vice-president; and James C. Price, secretary. All the officers are from Gonzales. A motion picture, "Rheumatoid Arthritis," was shown.

—Reported by James C. Price, Secretary.

### Harris County Society

February 15, 1956

"Radiotherapy and Cancer of the Breast" was the topic of R. McWhirter, radiotherapist to the Royal Infirmary, Edinburgh, at the February 15 meeting in Houston of the Harris County Medical Society.

March 14, 1956

The Harris County Medical Society, meeting March 14 in Houston, heard a program on "Recent Advances in the Management of Specific Renal Problems," presented by the faculty of Baylor University School of Medicine, Houston. John H. Moyer, Houston, served as moderator. The program was as follows:

Hypertension With and Without Renal Damage—John H. Moyer.
Congestive Heart Failure—Ralph V. Ford.
Acute Nephritis—Charles William Daeschner, Jr.
Acute and Chronic Anuria—George C. Morris, Jr.
Acute and Chronic Renal Disease—Edward W. Dennis.
Discussion.

April, 1956

Plans for Medical Education Week, April 22-28, in Harris County are under the direction of a coordinating committee headed by Stuart A. Wallace, Baylor University College of Medicine. Leading the activities was the annual benefit style show for the American Medical Education Foundation, sponsored by members of the Harris County Auxiliary. Another women's group, representing the National Foundation for Medical Education, is providing speakers, films, and personal contacts with the major women's groups of Houston.

Other plans for the week include the showing of "Danger at the Source," a film on the needs of medical education, on several television stations; the annual drive for AMEF funds from the Harris County physicians, and a luncheon for civic and industrial leaders to explain the needs of medical schools. The luncheon will be sponsored by several business leaders, headed by Mr. L. F. McCollum, president of the Conoco Oil Company.

### Hill County Society

March 9, 1956

Milford O. Rouse of Dallas, President-Elect of the Texas Medical Association, was guest speaker at the March 9 meeting in Hillsboro of the Hill County Medical Society. Following Dr. Rouse's address on "Items of Medical Interest Under Legislative Consideration," there was a question and answer period.

—Reported by Dick Cason, Reporter.

### Lamar County Society

March 1, 1956

The Lamar County Medical Society heard James W. Shaw, Fort Worth, speak on "Papillary Carcinoma of the Thyroid" at the March 1 meeting in Paris. Dr. Shaw illustrated his lecture with lantern slides.

—Reported by Joe F. Hillhouse, Secretary.

### Tarrant County Society

February 13, 1956

Daniel F. Downing, Philadelphia, spoke at the February 13 meeting of the Tarrant County Medical Society. His topic was "Congenital Aortic Stenosis." Application for the extension of the society's charter was read and approved.

—Reported by S. W. Wilson, Secretary.

February 21, 1956

I. L. Van Zandt, Fort Worth, was the principal speaker at the February 21 meeting of the Tarrant County Medical Society. His topic was "Extremity Fractures in Children." H. W. Paley, executive secretary of the Medical Research Foundation of Texas, Inc., asked that Fort Worth men assist in the foundation's work. A resolution was passed in opposition to the Alaska Mental Health Bill in its present form.

—Reported by Miss LaVerne Downtain, Executive Secretary.

## ★ District Societies

### Seventh District Society

March 10, 1956

The Seventh District Medical Society met in Austin March 10, and the scientific session, a symposium on carcinoma of prostate and carcinoma of breast, was presented by staff members of Baylor University College of Medicine, Houston, under the sponsorship of the Texas Division, American Cancer Society. Speakers were Wayne L. Eaton, assistant professor of pathology; Abel J. Leader, clinical associate professor of urology; and Lewis C. Mills, assistant professor of internal medicine. Special reference was made throughout the symposium to the use of hormonal therapy, adrenalectomy, and hypophysectomy.

Officers elected to serve in 1956 are Leslie C. Colwell, president; William P. Morgan, vice-president; and R. N. Snider, secretary-treasurer. All the officers are from Austin. Approximately 55 physicians attended the meeting.

The doctors and their wives saw the Austin Civic Thea-

ter's production of "Tobacco Road" after a dinner party in the evening.

**Ninth District Society**

March 29, 1956

The Ninth District Medical Society met March 29 in Baytown. Due to an automobile accident, Dr. Alvis E. Greer was not present to give his scheduled paper, and the program was as follows:

Preventive Versus Episodic Medicine—Henry A. Cromwell, Houston.
Pheochromocytoma—James S. Boren, Houston.
Proctologic Problems in Pediatric Practice.—Samuel Simkin, Houston.
Ankle Injuries—Joseph M. Barnhart, Houston.
Management of Abnormal Uterine Bleeding—C. L. Liggett, Baytown.
Diagnosis of Gastric Ulcer and Malignancy—W. T. Arnold, Houston.
Knee and Environs—R. W. Leong, Houston.
Dermatologic Diagnosis—Shirley S. Bowen, Houston.
Doctor and Public Relations—Robert B. Leonard, Houston.
Cardiac and Peripheral Vascular Surgery; Diagnosis and Indications—F. J. Wolma, Jr., Galveston.
Etiology of Neoplasms—Berne L. Newton, Houston.
Pharmacology and Therapeutics of Rauwolfia Alkaloids and Tranquilizer Drugs—R. L. Gregory, Galveston.
Mammoplasty (motion picture)—Bromley S. Freeman, Houston.

Following the scientific session, a cocktail party and banquet was held for the doctors and their wives, but an explosion occurred in the dock area during the banquet, and all physicians left to aid in the disaster area.

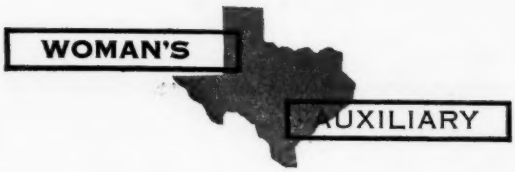
C. M. Hansen, Navasota, was elected president; Eugene Addison, Huntsville, vice-president; and Lyman C. Blair, Houston, secretary-treasurer.

**Tenth District Society**

March 23, 1956

The Tenth District Medical Society met in Beaumont March 23. M. E. DeBakey, Houston, presented a paper on "Cardiovascular Surgery," and Herbert C. Allen, Jr., Houston, spoke on "Diagnostic and Therapeutic Use of Radioactive Iodine." Golf and bridge facilities were available for the ladies, and a dinner and dance were held following the scientific portion of the meeting.

—Reported by A. E. Hubner, Secretary.




## ★ County Auxiliaries

The December program of the *Jefferson County Auxiliary* was responsible for three donations to the Rusk State Hospital. Mrs. Thelma Jones, a volunteer coordinator of special services, spoke before the auxiliary, and so challenging was her talk that members of the auxiliary, in cooperation with members of the local mental health society, chartered a bus and took Christmas gifts to the hospital patients. Another guest speaker, Walter Casey, manager of the Crosby Hotel, made a contribution of beautifully wrapped gifts. Still another direct result of Mrs. Jones' speech was a $25 check from an auxiliary member. The check was given to the occupational therapy department of the hospital.

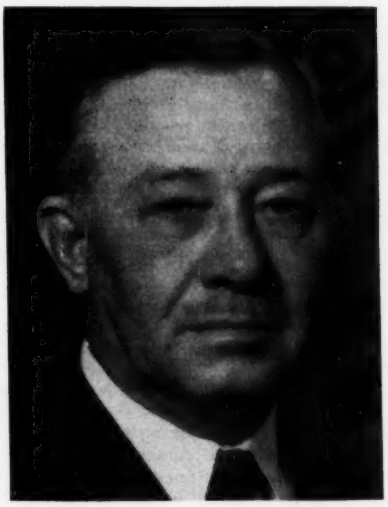
The *Navarro County Auxiliary* met in the home of Mrs. I. Terry Sanders, Kerens. New officers elected at that meeting are Mrs. Daniel B. Hamill, Corsicana, president; Mrs. Ben H. Griffin, Frost, vice-president; and Mrs. R. Lowell Campbell, Corsicana, secretary-treasurer. It was decided that the annual Doctor's Day banquet would be held March 28. Guest speaker will be Dick West of the Dallas *News* editorial staff.

Officers for 1956 for the *Tarrant County Auxiliary* are Mrs. Carey Hiett, president; Mrs. Hub E. Isaacks, president-elect; Mrs. C. Keith Barnes, first vice-president; Mrs. Burl V. Thompson, second vice-president; Mrs. I. L. Van Zandt, recording secretary; Mrs. Louis J. Levy, corresponding secretary; and Mrs. Otho P. Griffin, treasurer. All the officers are from Fort Worth.

## DR. ARTHUR C. SCOTT, JR.

Dr. Arthur Carroll Scott, Jr., senior surgeon and until a few months ago president of the board of trustees of the Scott and White Memorial Hospitals, Temple, Texas, died in a Lubbock hotel February 21, 1956, of gunshot wounds. He had suffered a paralytic stroke during the previous night.

Dr. Scott was born December 19, 1890, in Gainesville, and was the son of Dr. A. C. Scott, a cofounder of the Scott



DR. ARTHUR C. SCOTT, JR.

and White Clinic, and Maud (Sherwood) Scott. After graduation from Temple High School, Temple, Dr. Scott attended Trinity University, Waxahachie, for a short time before entering the University of Texas, Austin. He received his bachelor of arts degree in 1914, then began work toward his doctor of medicine degree, which he received in

1918 from Harvard University Medical School, Boston. Dr. Scott served a surgical internship at the Massachusetts General Hospital, Boston, and was awarded a fellowship in medicine at the Mayo Clinic, Rochester, Minn., where he spent a year in residency. In 1920, he joined the staff of Scott and White Hospital and Clinic, Temple. He later spent one year, 1928-1929, in Sterling City and San Angelo as a general practitioner and surgeon, then returned to the Scott and White Hospital and Clinic, where he remained until the time of his death. He was senior surgeon there, and in 1945 he became president of the board of directors. He served in this capacity until 1950, when the institution became a public foundation, and then became president of the board of trustees. He asked to be relieved from the presidency in January but remained on the board. He also had been president of the board of trustees of the Scott, Sherwood, and Brindley Foundation and of the Scott and White Clinic.

An active supporter of organized medicine, Dr. Scott's memberships included the Texas Medical Association; Bell County Medical Society; Twelfth District Medical Society; American Medical Association; Texas Surgical Society; Southwestern Surgical Conference (Founders Group); Southern Surgical Association; American Goiter Association; Southern Medical Association; World Medical Association (United States Committee); American Association of Railway Surgeons; Texas Railway and Traumatic Surgical Association; American Physicians Art Association; and the National Cancer Foundation. He was a fellow of the American College of Surgeons and the Mayo Clinic Alumni Association, and was a diplomate of the American Board of Surgery (Founders' Group). He was chief surgeon, Santa Fe Hospital Association and professor of surgery, Temple division, University of Texas Postgraduate School of Medicine.

Dr. Scott was a delegate of the Texas Medical Association to the American Medical Association and to the Texas Commission on Patient Care; a member of the AMA's Council on Medical Service and chairman of the A.M.A.'s special Committee on General Practice Prior to Specialization. His past positions included chairman of the Texas Medical Association's Council on Scientific Work, 1943-1948; chairman, Committee on Nursing, 1949-1955; and secretary, Section on Surgery, 1929 and 1941; secretary (1936-1937) and president (1938), Bell County Medical Society; and member, board of directors, American Goiter Association. In 1938 he was awarded a certificate of merit for having one of the two best scientific exhibits at the Texas Medical Association annual session. In 1922, he invented the rapid suture intestinal forceps.

He was president of the Kyle and Hawn Hotel Companies in Temple, and was a director of the Temple Hotel Company. He was a member of the Presbyterian Church, Masonic Order, Texas Historical Society, National Geographical Society, Texas Department of Public Safety (in which he served as a special Texas Ranger), Temple Country Club, Austin Club (in Austin), and Admirals Club of American Airlines. He formerly was president, Temple Chamber of Commerce; member, board of directors, and secretary, Brazos River Conservation and Reclamation District Power Committee; and president, Scott Aero, Inc. He was interested in aviation, and had accumulated nearly 1,000 hours of flying time in his own plane. Painting and architecture were other hobbies, and Dr. Scott also was a poet with one book of published poems. He often composed poems to send to his friends. He enjoyed a country home near Salado.

During World War I, Dr. Scott was in the Army Medical Corps Reserve.

Miss Greneta Courtney, Temple, and Dr. Scott were married October 9, 1946, in Austin. Dr. Scott's survivors include Mrs. Scott; two children by a former marriage, Pvt. James Harris Scott, Fort Ord, Calif., and Mrs. John B. Bryson, Jr., Beverly Hills, Calif.; an adopted daughter, Mrs. Patricia Massarano, San Angelo; two sisters, Mrs. Preston A. Childers and Mrs. Walker W. Saulsbury, both of Temple; and five grandchildren.

## DR. FRANK C. HODGES

Dr. Frank Carlton Hodges, Abilene, Texas, died in a local hospital February 14, 1956, after a brain hemorrhage.

Dr. Hodges was born August 3, 1906, in Crockett, and attended Bishop High School. He took his premedical work at Southwestern University, Georgetown, and was graduated in 1925. Dr. Hodges received his doctor of medicine degree from the University of Texas Medical Branch in 1929. He supplemented this training with a year's internship in Parkland Hospital, Dallas. In 1935, went to the Wills C. Campbell Clinic, Memphis, Tenn., for study in orthopedic surgery. Dr. Hodges began his private medical practice in Abilene in 1931, and also became a staff member of the Abilene State Hospital. He returned to Abilene in 1938 and began to practice his specialty. In 1950, Dr. Hodges and Dr. J. M. Hooks opened the Hodges and Hooks Orthopedic Clinic, where Dr. Hodges practiced until the time of his death.

DR. FRANK C. HODGES

He was a member of the Texas and American Medical Associations through the Taylor-Jones Counties Medical Society, of which he was president in 1942; the Texas Orthopedic Society; and the American Academy of Orthopedics, and was a fellow of the American College of Surgeons. He also was a member of the Abilene Lions Club and the Methodist Church.

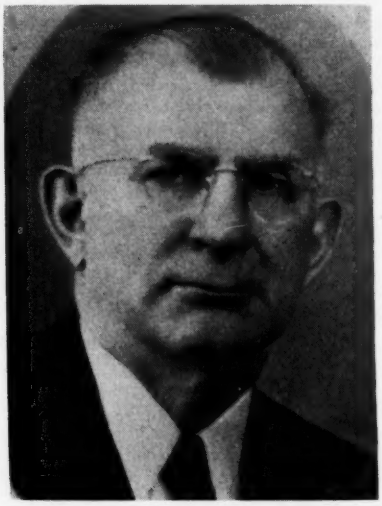
During World War II, he served as a major with the Army Medical Corps in England and at the Nichols General Hospital in Louisville, Ky.

Miss Ruth Whitworth and Dr. Hodges were married in Georgetown September 13, 1925. Survivors include Mrs. Hodges; a son, F. Carlton Hodges, Jr., who is a junior at the University of Texas Medical Branch, Galveston; and one granddaughter.

## DR. L. M. SHIPP

Dr. Loring Matthew Shipp, Henderson, Texas, died of heart disease in Shreveport on January 17, 1956.

Born in Water Valley, Miss., March 14, 1889, Dr. Shipp had lived most of his life in Rusk County. He was the son of C. Grundy and Martha Jane Shipp. After attending Denton Normal School, Dr. Shipp received his bachelor of arts degree at the University of Texas, Austin, in 1921 and his doctor of medicine degree from the University's Medical Branch in 1925. He served an internship and residency of



DR. L. M. SHIPP

four and a half years at Jefferson Davis Hospital, Houston, and did graduate study at the University of Pennsylvania, Philadelphia, in 1941, and at Harvard University Medical School, Cambridge, Mass., in 1942. After completing his residency, Dr. Shipp opened his practice in Henderson in 1929, serving there since that year.

A member of the Rusk County Medical Society, the Eleventh District Medical Society, the Texas Medical Association, and the American Medical Association throughout his career, Dr. Shipp was president of the county group in 1936-1937. He was a thirty-second degree Mason and member of the Shrine and a member of the Methodist Church. During World War I he was a lieutenant with the artillery. He was interested particularly in forestry.

Surviving Dr. Shipp is his wife, the former Miss Polly Ann Powell, whom he married December 7, 1933.

## DR. T. O. WILLS

Dr. Thomas Opie Wills, Corsicana, Texas, died of coronary occlusion January 14, 1956, while quail hunting.

A native of Corsicana, Dr. Wills was born there in 1895. He was graduated from the University of Texas Medical Branch, Galveston, in 1918, and served his internship in John Sealy Hospital, Galveston. He had been a practicing physician in Corsicana since 1920, having been with the Navarro Clinic since its construction in 1929.

Dr. Wills was a member of the Texas and American Medical Associations through the Navarro County Medical Society. He was president of the latter group in 1932 and 1948. He was a member of the Methodist Church, the Masonic Order, and the Oddfellows Lodge, and had served as Corsicana city health officer, and as house physician at John Sealy Hospital, Galveston.

Dr. Wills and Miss Lois Kent were married December 15, 1926, in Corsicana.

Surviving are his wife; a daughter, Mrs. Jack Burke; and two grandchildren, all of Corsicana; a brother, Allister Wills, Tyler; four sisters, Mrs. C. C. Stroud and Mrs. Dubart Miller, both of Corsicana; Mrs. Fannie Hilliard, Hobbs, N. Mex.; and Mrs. George Lord, Clearwater, Fla.

## DR. CHARLES E. BALL

Dr. Charles Edward Ball, Fort Worth, Texas, died January 22, 1956.

He was the son of Charles T. and Mary (Peterson) Ball, and was born October 17, 1898, in Ansonville, N. C. He attended private schools except for his last year in high school. After graduating from Central High School, Fort Worth, he attended Hardin Simmons College, Abilene, for a year. He completed work for a bachelor of arts degree at Baylor University, Waco, in 1921. He attended Baylor University College of Medicine, Houston, two years, then transferred to Jefferson Medical College, Philadelphia, from which he was graduated in 1923. He interned in the Baptist Hospital, Fort Worth, and his residency in otolaryngology and ophthalmology was spent at the New Orleans Eye, Ear, Nose, and Throat Hospital, New Orleans. He later did postgraduate work at Tulane University, New Orleans.

DR. CHARLES E. BALL

Dr. Ball began his medical practice in Fort Worth in 1925, and remained there throughout his career. He was a staff member of the Harris, Pennsylvania Avenue, St. Joseph's, and All Saints Hospitals, and the W. I. Cook Memorial Hospital Center for Children. He had been a member of the Texas and American Medical Associations through the Tarrant County Medical Society since 1924. Dr. Ball also was a diplomate of the American Board of

Otolaryngology, a fellow of the American College of Physicians and of the American College of Surgeons, and a member of the Texas Society of Ophthalmology and Otolaryngology; the Fort Worth Academy of Medicine; the Fort Worth Eye, Ear, Nose, and Throat Society; and Phi Alpha Sigma medical fraternity. He also was a member of the Fort Worth Chamber of Commerce, the Fort Worth Club, and the Baptist Church, and was on the executive board for the Lena Pope Home.

On June 14, 1924, Miss Nell Vance and Dr. Ball were married in Fort Worth. Mrs. Ball survives, as do two daughters, Mrs. Mary Frances Floyd, Midland, and Mrs. Judy Shropshire, Navasota.

## DR. C. C. CATE

Dr. Clarence Clifton Cate, Morgan, Texas, died January 27, 1956, of a coronary occlusion. Dr. Cate was born June 4, 1882, in Grapevine, Texas, and his parents were John Bellemy and Julia Elizabeth Cate.

He attended public schools in Grapevine, then entered Grapevine College. He was graduated from the Medical School of Vanderbilt University, Nashville, Tenn., in 1905, and interned in a hospital in Ardmore, Okla. Dr. Cate practiced in Morgan throughout his career.

He had been a member of the Texas Medical Association almost continuously since 1906, and was elected to honorary membership in 1952. He was a member of the Bosque County Medical Society, and had served as its secretary from 1919 through 1934, and again in 1937 and 1938. In 1939, he was president of his county society. Dr. Cate also was a member of the American Medical Association, and was county health officer and public health officer for the city of Morgan for 25 years.

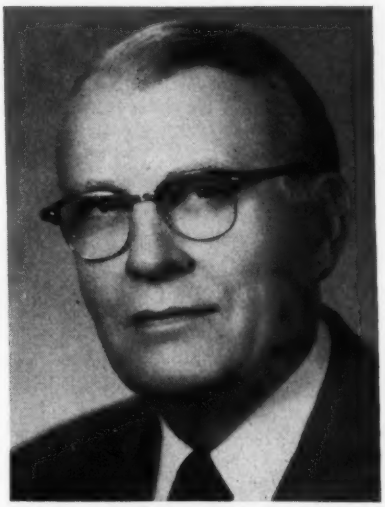
Dr. Cate served on the board of trustees of the Morgan Independent School District for 10 years, was superintendent of the Sunday School and taught the men's Bible class in the Morgan Methodist Church for 20 years, and was mayor of Morgan from 1932 until 1946. During his term as mayor, Dr. Cate was instrumental in improving the city's water system, the building of a new city hall and a high school gymnasium, and setting up for a reserve fund for retired mayors.

Dr. Cate married Miss Lillian M. Carruthers June 22, 1908, in Morgan. Mrs. Cate, Morgan, and a daughter, Mrs. J. H. Weaver, Houston, survive.

## DR. RALPH BOWEN

Dr. Ralph Bowen, Houston, Texas, allergist and pediatrician, died of a coronary occlusion January 31, 1956, in a local hospital.

Dr. Bowen was the son of Leonard and Prudence Bowen; he was born July 4, 1898, in Iowa City, Iowa. He was graduated from the State University of Iowa, Iowa City, in 1921, then entered the State University of Iowa College of Medicine, Iowa City, from which he was graduated in 1924. Later, he did postgraduate work in infectious diseases at Harvard University Medical School, Boston, Mass.; in cardiology at Washington University, St. Louis, Mo.; and in allergy at Guy's Hospital, London. Dr. Bowen taught at the University of Tennessee, Memphis, from 1928 until 1931. He was associate professor of pediatrics and medicine at the University of Oklahoma School of Medicine, Norman, and was chief of the out-patient service (allergy) there from 1931 until 1939, when he moved to Houston. At the time of his death, he was chief of allergy at the Texas Children's Hospital, Houston, a special lecturer at the University of Texas Medical Branch, Galveston, and associate professor of medicine at Baylor University College of Medicine, Houston. He was in the midst of a government sponsored research project on the use of gamma globulin in the treatment of asthmatic children.



DR. RALPH BOWEN

Dr. Bowen was a member of the Texas and American Medical Associations through the Harris County Medical Society, and was a member and past president of the section on allergy of the Southern Medical Association, and held membership in the American Academy of Pediatrics and the American Academy of Allergy. He was a fellow of the American College of Physicians and was certified by the American Board of Pediatrics. He also was a fellow of the American College of Allergists, was one of the signers of its articles of incorporation; and served as one of the nine members of its first board of regents and as vice-president of the College in the first administration. He was a member of the Episcopal Church.

Miss Celestine Vosmek and Dr. Bowen were married September 7, 1927, in Cedar Rapids, Iowa.

Survivors include Mrs. Bowen; a daughter, Miss Judy Bowen; and a son, Dr. Ralph Bowen, Jr., all of Houston; his parents, Mr. and Mrs. Leonard Bowen, Muscatine, Iowa; a sister, Mrs. Charles Maplethorpe, Jr., Toledo, Iowa; and three brothers, Robert J. Bowen, Moline, Ill.; Harold Bowen, Saudi, Arabia; and Sidney Bowen, Palo Alto, Calif.

## DR. FREDERICK C. COLEMAN

Dr. Frederick Charles Coleman, San Antonio, Texas, died January 29, 1956, of interstitial myocarditis and acute cerebral edema.

Dr. Coleman was born in Rajahmundry, India, November 13, 1919. His parents are the Rev. Frederick Leroy and Edith (Shoop) Coleman. Dr. Coleman attended grade and high schools in the Kodaikanal School in Kodai, India. He earned his bachelor of arts degree in 1940 at Gettys-

burg College, Gettysburg, Pa., where he became a member of Phi Beta Kappa and Phi Kappa Rho social fraternity. He then entered the University of Pennsylvania School of Medicine, Philadelphia, where he was awarded a senatorial scholarship, and was graduated in 1943. He joined Phi Rho Sigma medical fraternity. Dr. Coleman interned and spent his residency in pathology at the Reading General Hospital, Reading, Pa., from 1944 through 1946. He was a first lieutenant in the Army Medical Reserve Corps during his internship and residency. From 1946 until 1948, he served in the Army Medical Corps as a tissue pathologist at Brooke Army Hospital, San Antonio, and as a captain in the laboratory at Fort Leavenworth, Kan. Dr. Coleman remained in the enlisted reserves from 1950 until November, 1955. After his discharge from the Army in 1948, he continued training in his specialty at St. Luke's Hospital, Kansas City, until June, 1951.

DR. FREDERICK C. COLEMAN

At the time of his death, Dr. Coleman was assistant pathologist at Santa Rosa Hospital, a staff member of the Robert B. Greene Hospital, consultant for the Department of Pathology at the Veterans Administration Hospital, Legion, and medical adviser for the Community Blood Bank in San Antonio.

Dr. Coleman was a member of the Texas and American Medical Associations through the Bexar County Medical Society. He also was a fellow of the College of American Pathologists, and a member of the American Society of Clinical Pathologists, the Texas Academy of Science, the Texas Society of Pathologists, the San Antonio Society of Pathologists, and the World Medical Association.

He was a member of the Ascension Lutheran Church, San Antonio, and was superintendent of the Sunday school, a leader in the evangelistic program, and a member of the board of administration and the choir.

Dr. Coleman and Miss Ruth Elizabeth Stark were married March 28, 1943, in York, Pa. Mrs. Coleman and four children, Judith Anne, 10; Frederick William, 8; Thomas Charles, 5; and Richard David, 3, survive. Other survivors are his parents, the Rev. and Mrs. Frederick L. Coleman, Gettysburg, Pa.; a sister, Mrs. W. R. Pohl, Naugatuck, Conn.; and a brother, the Rev. W. D. Coleman, Rajahmundry, India.

## DR. THOMAS S. ROACH

Dr. Thomas Stith Roach, Caldwell, Texas, died in a Bryan hospital January 13, 1956, of a ruptured aneurysm of the abdominal aorta.

A native of Richmond, Va., he was born December 3, 1887, and was the son of Andrew and Mary (Gordon) Roach. He attended Thomas Jefferson High School in Richmond and entered the Medical College of Virginia, Richmond, where he studied from 1910 until 1912. He was graduated from the Chicago School of Medicine and Surgery in 1914, and spent his internship at the Cook County Hospital, Chicago. Dr. Roach served as a resident in the Los Angeles Receiving Hospital. From 1915 until 1926, he was in the Army Medical Corps, serving in Washington, D. C.; as chief surgeon at the Soldiers' Home, Danville, Ill.; and as chief surgeon of the Veterans Administration Hospital in Milwaukee. He attained the rank of lieutenant colonel. Dr. Roach had served in the United States Public Health Service, and was executive officer of personnel at the St. Louis branch at one time.

In 1926, he came to Texas and practiced eight years in San Antonio, where he was a member of the San Antonio Board of Health. The remainder of his time, with the exception of two years each in Marlin and Laredo, was spent in Caldwell, where he was city and county health officer. He was a member of the American Medical Association, Texas Medical Association, Ninth District Medical Society,

DR. T. S. ROACH

Washington-Burleson Counties Medical Society, Southern Medical Association, Theta Kappa Psi medical fraternity, Association of Military Surgeons of the United States, American Association of Railway Surgeons, Methodist Church, Rotary Club, and Caldwell Chamber of Commerce. He was a thirty-second degree Mason.

Mrs. Velma Allan Farquhar and Dr. Roach were married May 31, 1940, in Seguin. Mrs. Roach; their daughter, Mrs. H. G. Paulson, Caldwell; a sister, Mrs. Annie Hayes, Richmond, Va.; and a brother, Russell Roach, Richmond, Va., survive.